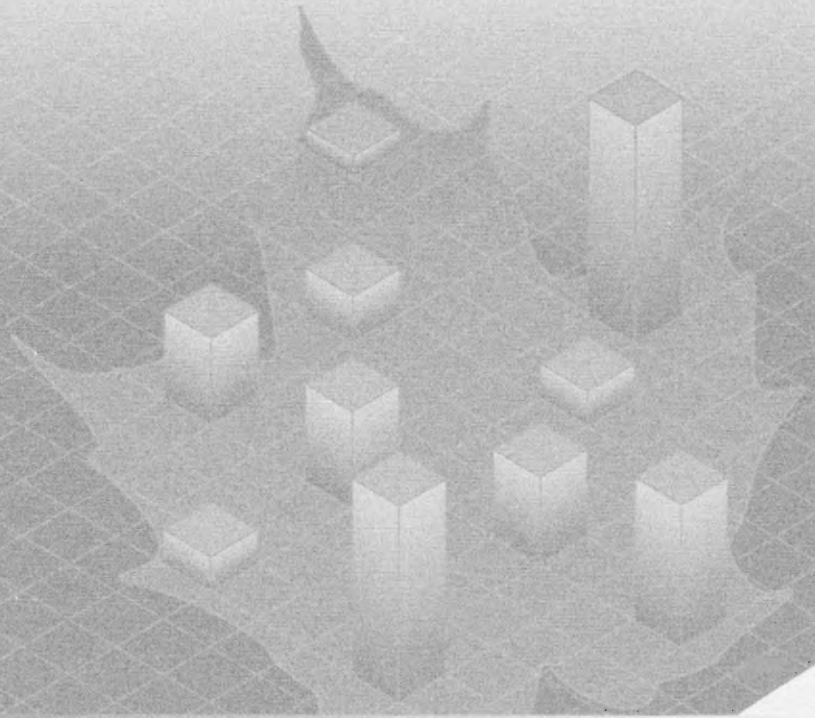
Office of the Superintendent of Financial Institutions Canada
Office of the Chief Actuary

Bureau du surintendant des institutions financières Canada
Bureau de l'actuaire en chef



ACTUARIAL REPORT

on the

CANADA STUDENT LOANS PROGRAM

as at 31 July 2011

Canada

To obtain a copy of this report, please contact:

Office of the Chief Actuary
Office of the Superintendent of Financial Institutions Canada
16th Floor, Kent Square Building
255 Albert Street
Ottawa, Ontario
K1A 0H2
Facsimile: **(613) 990-9900**
E-mail: **oca-bac@osfi-bsif.gc.ca**

An electronic version of this report is available
on our Web site, at **www.osfi-bsif.gc.ca**

© Minister of Public Works and Government Services

Cat. No. IN3-16/22-2011E-PDF
ISBN 978-1-100-20120-7

1 June 2012

The Honourable Diane Finley, P.C., M.P.
Minister of Human Resources and Skills Development Canada
House of Commons
Ottawa, Canada
K1A 0G5

Dear Minister:

In accordance with section 19.1 of the *Canada Student Financial Assistance Act*, which provides that a report shall be prepared on financial assistance provided under this Act, I am pleased to submit the Actuarial Report on the Canada Student Loans Program, prepared as at 31 July 2011.

Yours sincerely,

Jean-Claude Ménard

Jean-Claude Ménard, F.S.A., F.C.I.A.
Chief Actuary

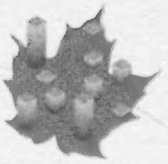
TABLE OF CONTENTS

Page

I. Executive Summary ... 8
A. Purpose of the Report ... 8
B. Scope of the Report ... 8
C. Main Findings ... 9
II. Main Report ... 10
A. Best-estimate Assumptions ... 10
1. Demographic Assumptions ... 11
2. Economic Assumptions ... 11
3. Provision Assumptions ... 13
B. Projection of Total Loans Issued ... 17
1. Projection of Full-time Post-secondary Enrolment ... 17
2. Number of Students in the Canada Student Loans Program ... 20
3. New Loans Issued ... 23
C. Portfolio Projections ... 26
1. Guaranteed and Risk-Shared Portfolios ... 26
2. Direct Loan Portfolio and Allowances ... 27
3. Limit on Aggregate Amount of Outstanding Loans ... 36
D. Projection of the Net Cost of the Program ... 38
1. Student Related Expenses ... 38
2. Program Risk Expenses ... 39
3. Other Expenses ... 40
4. Total Revenue ... 41
5. Net Cost of the Program ... 43
III. Conclusion ... 45
IV. Actuarial Opinion ... 46
V. Appendices ... 47
Appendix 1 – Summary of Program Provisions ... 47
Appendix 2 – Data ... 51
Appendix 3 – Assumptions and Methodology ... 54
Appendix 4 – Sensitivity Tests ... 67
Appendix 5 – Acknowledgements ... 73

INDEX OF TABLES AND CHARTS

		Page
Table 1	Borrowing Costs	13
Table 2	Provision and Allowance Assumptions	15
Table 3	Best-estimate Assumptions	16
Table 4	Population and Post-secondary Enrolment	19
Table 5	Average Student Need	20
Table 6	Loan Recipients	23
Table 7	Increase in New Loans Issued	25
Table 8	Guaranteed and Risk-Shared Regimes Portfolios	27
Table 9	Direct Loan Portfolio and Allowances	28
Table 10	Defaulted Loans and Allowance for Bad Debt – Principal	29
Table 11	Interest on Defaulted Loans and Allowance for Bad Debt – Interest	32
Table 12	Allowance for Repayment Assistance Plan – Principal	34
Table 13	Direct Loan Portfolio and Allowances (in millions of 2011 constant dollars)	36
Table 14	Aggregate Amount of Outstanding Student Loans	37
Table 15	Student Related Expenses	38
Table 16	Risks to the Government	39
Table 17	Summary of Expenses	41
Table 18	Total Revenue	42
Table 19	Net Annual Cost of the Program	43
Table 20	Net Annual Cost of the Program (in millions of 2011 constant dollars)	44
Table 21	Direct Loans Issued and Number of Students	51
Table 22	Direct Loans Consolidated	51
Table 23	Defaults and Recoveries for Direct Loans	52
Table 24	Repayment Assistance Plan	53
Table 25	Full-time Post-Secondary Enrolment Rate by Labour Force Status	55
Table 26	Short-term Increase of Tuition Expenses	57
Table 27	RAP Stage 1 Utilization Rates for the Direct Loan Regime (%)	59
Table 28	Provision Rate for Bad Debt – Principal	62
Table 29	Provision Rates for Bad Debt – Interest	64
Table 30	Accelerated Payment Rates	65
Table 31	Administration Costs	66
Table 32	Long-term Sensitivity Test Assumptions	67
Table 33	Impact of Loan Limit on Loans Issued	68
Table 34	Impact of Indexation of Loan Limit and Grants on Loans Issued	68
Table 35	Sensitivity Test Results for Loan Year 2035-36	72



Page

Chart 1 Evolution of Enrolment in Post-Secondary Institutions by Labour Force Status 18
Chart 2 CSLP Student Projected Need Curve for Single Living at Home 21
Chart 3 Provision Rates for Allowance for Bad Debt – Interest 31
Chart 4 Actual and Fitted Need Distribution 2009-10 for Single Living at Home 56
Chart 5 Distribution of Consolidation 58
Chart 6 Default Distribution 60
Chart 7 Recovery Distributions Depending on Date of Default 61
Chart 8 Projected Cumulative Proportions of Recoveries for 2010-11 Default Cohort 62
Chart 9 Non-Recoverable and Limitation Period Exceeded Distribution 63
Chart 10 New Loans Issued with Indexation of Loan Limit and Grants 69

I. Executive Summary

Effective 1 August 2000, the Government redesigned the delivery of the Canada Student Loans Program (CSLP) from one delivered by chartered banks to one directly financed by the Government. As part of this redesign, the Office of the Chief Actuary was given the mandate to conduct an actuarial review to provide a precise assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, a portfolio projection, as well as a discussion of all the assumptions underlying the results of the review. The results are presented on a loan year basis from 1 August to 31 July.

A. Purpose of the Report

Section 19.1 of the *Canada Student Financial Assistance Act* provides that the Chief Actuary of the Office of the Superintendent of Financial Institutions shall prepare a report on the financial assistance provided under this Act no later than three years apart. This is the fourth statutory actuarial report on the CSLP, prepared as at 31 July 2011. As provided in subsection 19.1(3), the report includes a forecast of the costs and revenues of the Program for 25 years, which is through loan year 2035-36 in this report. The purpose of the actuarial review of the CSLP is to provide an evaluation of the Program's overall financial costs and increases the level of information provided to the Minister of Human Resources and Skills Development Canada, Parliament and the public.

This actuarial report shows estimates of:

- projections of the number of students receiving a loan under the CSLP and amount of new loans issued;
- projections of the portfolio of loans in-study, loans in repayment and Program cost elements by type of financial arrangement or regime. Also included are projections of the provisions and allowances under the direct loan regime in effect since August 2000; and
- projections of the net cost of the direct loan regime as well as the remaining net cost for the pre-2000 regimes.

B. Scope of the Report

This valuation report is based on the Program provisions as described in Appendix 1. After a short discussion of the best-estimate assumptions in section A of the Main Report, section B presents projections of new loans issued, the number of students eligible to receive a loan and the average amount of new loans issued. Section C includes projections of the portfolio by type of regime. Section D contains projections for the operation of this Program, such as revenues and expenses for all three regimes. These are followed by a conclusion of the actuarial review and the actuarial opinion regarding this review.

The various appendices provide supplemental information on Program provisions, a description of data, assumptions and methods employed and the sensitivity tests conducted.

C. Main Findings

The following summarizes the main findings of this actuarial report. The results are presented on a loan year basis from 1 August to 31 July.

- The population enrolled full-time in a post-secondary institution is projected to increase from 1,248,000 in 2010-11 to 1,290,000 in 2011-12. Enrolment is projected to follow the movement of the population and reach 1,231,000 in 2035-36.
- The number of students receiving a CSLP loan increases from 429,000 in 2010-11 to 454,000 in 2011-12. The projected number of students in the CSLP fluctuates both with the post-secondary enrolment and student needs. It reaches 662,000 in 2035-36. Hence, the loan uptake rate of students in post-secondary institutions increases from 34% to 54%.
- The amount of new loans issued in 2010-11 totalled $2,227 million and is projected to increase to $2,419 million in loan year 2011-12. New loans issued are projected to increase throughout the projection period to reach $4,366 million in 2035-36.
- The Canada Student Grants Program (CSGP) was introduced in loan year 2009-10. The amount of grants disbursed under CSGP is projected at $642 million for 2011-12 and is expected to increase to $926 million in 2035-36.
- The direct loan portfolio increases from $13.3 billion as at 31 July 2011 to $27.5 billion by the end of the projection period. The amount of direct loans in default as at 31 July 2011 is $1.8 billion and is projected to reach $3.4 billion in 2035-36.
- The limit on the aggregate amount of outstanding loans, which was increased from $15 billion to $19 billion through amendments to the CSFAA and the Regulations in March 2012, will be reached in January 2021.
- The total net cost (expenses less revenues) of the Government's involvement in the CSLP is expected to grow from $1.7 billion in 2010-11 to $2.5 billion in 2035-36. This represents an average annual increase in the cost to the Government of 1.5%.
- The Repayment Assistance Plan (RAP) was introduced in loan year 2009-10. It replaces the Interest Relief (IR) and Debt Reduction in Repayment (DRR) measures. An allowance for RAP has been established. Amendments introduced in August 2009 clarified that the forgiveness of loans for permanent disability is limited to severe permanent disability. Borrowers with a permanent disability who do not qualify for loan forgiveness may instead be eligible for RAP. The experience for those cases is higher than expected, increasing the provision rate from 1.8% to 3.0%. An adjustment of $270 million to the allowance is required as at 31 July 2011.
- The assumptions for the future default rate and for the future recovery rate by cohort remain unchanged at 16% and 26% respectively. As a result, the provision rate for bad debt – principal remains unchanged at 12.4%. The report accounts for the impact of the economic downturn on loans in repayment by assuming a temporary increase in the default rate by consolidation cohort for the next five loan years.
- The provision rates for bad debt – interest are adjusted downward compared to the previous report to reflect recent experience.

II. Main Report

The Canada Student Loans Program has been in effect since 1964 and provides Canadians with financial assistance to pursue a post-secondary education. Historically, two successive acts were established to permit the Minister to provide loans to eligible students under the Program. The *Canada Student Loans Act* (CSLA) applies to loan years preceding August 1995. The *Canada Student Financial Assistance Act* (CSFAA) replaced the previous act for loan years after July 1995.

On 1 August 2000, the Government redesigned the delivery of the Program to disburse loans directly to students. The Office of the Chief Actuary was given the mandate to provide an assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, a portfolio projection, as well as a discussion of all the assumptions underlying the results of the review. The results are presented on a loan year basis from 1 August to 31 July.

Section A of the report provides a discussion of assumptions that reflect the actuary's best judgement; these assumptions are referred to in this report as the "best-estimate" assumptions. They are determined by putting emphasis on elements affecting the growth of new loans issued.

The projection of loans issued to eligible students for each loan year is presented in section B. This includes a projection of the population in order to determine the future number of students enrolled in post-secondary education and thus eligible to qualify for a loan under the CSLP. A long-term demographic and economic context of the aging of the population and the anticipated labour shortage serve as a basis for the examination of key factors that affect eligibility. Such factors include the evolution of the projected student population, the participation of youth in the labour force and the enrolment rate in post-secondary institutions.

The projection of the loan portfolio for each regime (guaranteed, risk-shared and direct) is provided in section C and the forecast of the net cost of the CSLP is presented in section D. For the Government, there are higher public debt charges following the implementation of the direct loan arrangement. The costs related to direct loans include the interest subsidy on in-study loans, interest relief from the Repayment Assistance Plan (RAP), provisions for RAP (principal) and bad debt (principal and interest), the Canada Student Grants Program (CSGP), alternative payments, loan forgiveness and administration expenses. The costs are reduced by an estimate of the net interest revenues coming from student interest payments, RAP interest payments and the net interest accrued during the grace period and on defaulted loans.

The actuarial estimates in this report are based on the current provisions of the Program as described in Appendix 1. The other appendices contain detailed descriptions of the assumptions, methodology and sensitivity tests conducted, as well as the results of the sensitivity tests which examine the impact of changes in assumptions such as the loan ceiling, interest rates and net default rates.

A. Best-estimate Assumptions

Several economic and demographic assumptions are needed to determine future long-term costs of the CSLP. The projections included in this report cover a period of 25 years and the assumptions are determined by putting as much emphasis on historical trends as on short-term experience. These assumptions reflect the actuary's best judgement and are referred to as "best-estimate" assumptions. Some of the assumptions are based on the most recent actuarial report on the Canada Pension Plan (CPP), adjusted to reflect loan year periods and current economic and demographic experience.

The assumptions were chosen to form a coherent whole, taking into account certain interrelationships among them. The following sections present the assumptions used as well as their future evolution.

1. Demographic Assumptions

Demographic projections are based on the population projected in the 25th Actuarial Report on the Canada Pension Plan as at 31 December 2009. More specifically, it starts with the Canadian and Québec populations on 1 July 2009, to which future fertility, mortality and migration assumptions are applied. The population of Canada is adjusted to exclude the non-participating province of Québec and territories of the Northwest Territories and Nunavut. The CPP population projections are essential in determining the future number of students enrolled in and pursuing a post-secondary education.

2. Economic Assumptions

The main economic assumptions related to the CSLP are the evolution of the labour force, inflation, tuition fees, wage increases, as well as the cost of borrowing for both students and the Government.

a) Evolution of the Labour Force

The "baby-boom" generation has and continues to exert a major influence on various aspects of society. It represents the large cohort born between the mid-1940s and the mid-1960s. This generation has exerted the strongest single influence on Canadian demographics over the last several decades. The aging of this generation will have significant influences over the next 25 years, such as slowing down the natural population growth and changing the composition of the labour force.

The entry of the "baby-boom" generation into the labour market created an abundance of workers, thus increasing the unemployment rate and influencing the transition from school to work during the last 20 years. In the 1990s, poor labour market conditions meant that youths aged 15-24 were less likely to find work and thus, more likely to be in school than youths of previous decades.

During the last two decades, poor labour market conditions increased the school-to-work transition period. Until recently, it was difficult for a great number of youths to find work. One of the key elements underlying the best-estimate economic assumptions relates to the expected labour shortage. This shortage will result from the aging of the population, the retirement of the "baby-boom" generation and the impact of these on the labour force growth and distribution.

However, the recent economic downturn, as evidenced by the increasing unemployment rate and contraction of the economy, had an impact on the labour market. The youth unemployment rate (ages 15-24) for Canada excluding Québec increased from 11.0% in the 2007-08 loan year to 15.3% in the 2009-10 loan year. The youth unemployment rate has decreased to 14.6% in the 2010-11 loan year. These recent trends may have influenced students to pursue a post-secondary education rather than enter the labour force.

In general, youth labour force participation decreased during the economic downturn. Based on the first few months of loan year 2011-12, it is assumed that the youth labour force participation rates will increase gradually from 2011-12 to reach the CPP assumptions back in 2015-16.

b) Inflation, Tuition Fees and Wage Increases

Price increases, as measured by changes in the Consumer Price Index, tend to fluctuate from year to year. In 2011, the Bank of Canada and the Government renewed their commitment to keep inflation between 1% and 3% until the end of 2016. Therefore, a price increase rate of 2.0% is assumed for loan years 2012-13 to 2016-17. Beginning in 2017-18, the rate is assumed to uniformly increase until it reaches an ultimate rate of 2.3% in 2019-20.

Student expenses are used in the need assessment process to determine the maximum loan amount that can be issued. These expenses include food, shelter, transportation and clothing, all of which tend to vary with consumer prices. As a result, the future anticipated rate of inflation is used to project these expenses.

Tuition fees are treated separately from other expenses since their evolution is, in part, a result of government policies. Based on stated intentions in provincial budgets and actual tuition increases as reported in news releases, the tuition increase is estimated to be 3.9% for the 2011-12 to 2014-15 loan years. In the past, government budgetary cost pressures caused tuition fees to rise more quickly than inflation. Similar budgetary pressures are expected in the future due to the aging of the population. Thus, tuition fees are indexed at the rate of inflation plus 2.5% for the long-term, in accordance with the experience observed over the last 10 years. This assumption is revised downward from inflation plus 3.0% used in the previous report.

Future student resources, including student earnings and parental contributions, are influenced by the increase of average annual earnings. The increase in average earnings is related to changes in labour market supply. Therefore, an increase in productivity and a decline in the labour force growth rate, especially after 2011-12, are assumed to force a relatively higher real wage growth. The real wage growth is projected to increase gradually from 0.5% in 2011-12, reaching 1.3% by 2019-20. It is maintained at that level for the rest of the projection period.

c) Cost of Borrowing

Since August 2000, students are indebted to the Government of Canada and, as a result, the Government bears the interest risk associated with the cost of borrowing for the entire duration of the loans. In general, the loan's duration is a combination of three periods. First, a student is in school and receives an interest subsidy for an average of three years. Next, the student enters a grace period of six months during which interest accrues but no payment is required. Finally, the student enters a period of repayment which normally lasts nine and a half years. The historical 10-year Government of Canada bond yield, net of inflation, is used as a benchmark to calculate the real cost of borrowing for the Government. The average federal bond yields for the 2010-11 loan year is lower than was expected in the previous report. It continued to decrease during the first few months of the 2011-12 loan year. This trend is expected to reverse starting in the 2012-13 loan year. Thus, the Government cost of borrowing is estimated to be 2.1% for the 2011-12 loan year and is anticipated to gradually increase to an ultimate rate of 4.8% by loan year 2019-20. The Government cost of borrowing is the sum of the real government cost of borrowing and the rate of inflation as summarized in Table 1.

Table 1 Borrowing Costs

Loan Year	Inflation (%)	Real Government Cost of Borrowing (%)	Government Cost of Borrowing (%)	Prime Rate (%)	Student Cost of Borrowing (%)
	(1)	(2)	(1) + (2)	(3)	(3) + 250 pts
2011-2012	2.1	0.0	2.1	3.0	5.5
2012-2013	2.0	0.7	2.7	3.2	5.7
2013-2014	2.0	1.6	3.6	3.7	6.2
2014-2015	2.0	2.3	4.3	4.5	7.0
2015-2016	2.0	2.5	4.5	4.7	7.2
2016-2017	2.0	2.5	4.5	4.7	7.2
2017-2018	2.1	2.5	4.6	4.8	7.3
2018-2019	2.2	2.5	4.7	5.0	7.5
2019-2020+	2.3	2.5	4.8	5.1	7.6

The average prime rate for loan year 2011-12 is set at 3.0%, and is expected to increase to 3.2% in loan year 2012-13 based on the expected gradual recovery of the economy. The prime rate is expected to continue increasing gradually to an ultimate rate of 5.1% in loan year 2019-20. The student cost of borrowing, used to calculate interest revenue, is the sum of the prime rate and a spread of 250 basis points. The student cost of borrowing is 5.5% in loan year 2011-12 and is expected to increase to an ultimate rate of 7.6% by loan year 2019-20. The student cost of borrowing can be found in the last column of Table 1.

3. Provision Assumptions

Since August 2000, the CSLP is delivered and financed directly by the Government. Three allowances were established to cover future costs: bad debt – principal, bad debt – interest and Debt Reduction in Repayment (DRR). Interest Relief (IR) and DRR measures were replaced by the Repayment Assistance Plan (RAP) effective August 2009 and a RAP – Principal allowance was created.

The allowance for bad debt – principal is based on a prospective approach that uses a snapshot of the portfolio at a particular point in time to determine the amount of the allowance at that time. The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or in default (according to the number of years since default). The value of the allowance is projected into the future using assumed default and recovery rates. For each loan category, based on the length of time that the loan has been in that status, the appropriate rate and distribution are applied to determine the value of the allowance.

The provision rate for bad debt – principal is applied to the net loans issued which are obtained by reducing loans issued by prepayments and loans forgiven while in-study and during the grace period. The provision rate remains unchanged at 12.4%, as set in the previous report. The level of the total allowance is determined at the end of the loan year. The annual expense for bad debt – principal is equal to the difference between the total allowance at the end of a year and the total allowance at the end of the previous year net of write-offs that have occurred during the year.

The allowance for bad debt – interest is based on the account's recoverable status and its age since default. The interest accrued on defaulted loans is considered a revenue until the loan reaches the "non-recoverable" status. To lessen the effect of changing this revenue to a loss, an

allowance is created based on the outstanding interest at the end of each year. The percentage of the allowance changes according to the number of years since default. The annual expense for bad debt – interest is equal to the difference between the total allowance at the end of a year and the total allowance at the end of the previous year net of write-offs that have occurred during the year.

The provision rates for bad debt – interest are modified from the previous report according to recent experience. The projected rates take into account that a large portion of interest is transferred to the "non-recoverable" status starting in the sixth year following default because there is a six-year limitation period (statute of limitations). The set of provision rates used to determine the allowance on recoverable accounts as at 31 July 2011 is shown in Table 2. These rates are also used to determine the allowance on recoverable accounts as at 31 March 2012 for the purpose of the Public Accounts. The provision rate for the allowance on non-recoverable accounts is 100%.

The RAP consists of two stages to help student borrowers fully repay their student loan within fifteen years (or ten years for borrowers with permanent disabilities). Stage 1 is applicable for up to five years over a ten-year period. The Government will cover the monthly interest amount owing that the borrower's affordable payment does not cover. Stage 2 begins once the borrower completes Stage 1, or has been in repayment for ten years following the end of the study period. The Government continues to cover the interest, as in Stage 1, and begins to cover a portion of the student loan principal amount (i.e. the difference between the required and affordable payments). Borrowers with a permanent disability proceed directly to Stage 2, on approval of their RAP-PD application.

The RAP – principal provision covers future costs related to Stage 2 of the RAP in which the principal balance of the loan is gradually paid off, in part or entirely, by the Government. The RAP – principal provision rate, applicable to net loans issued, was set at a rate of 1.8% in the previous report and is increased to 3.0% according to recent experience, specifically the increase of RAP expenses for borrowers with a permanent disability (RAP-PD). As a result of the change in the Regulations in August 2009 from the "permanent disability" definition to the "severe permanent disability" definition for loans forgiveness purposes, borrowers with a permanent disability who are not eligible for loans forgiveness may instead apply for RAP-PD.

RAP is a program introduced in 2009 and has limited experience. The related projection of costs and underlying assumptions may be revised again in the future as more experience emerges and the provision rate will be updated accordingly. As for the former Interest Relief measure, a modest provision for the RAP (Stages 1 and 2) – interest is determined by HRSDC for accounting purposes to take into account the timing of the interest accrued.

Table 2 Provision and Allowance Assumptions

Type of Provision		Assumptions
		(%)
On net loans issued		
Bad debt – principal		12.4
Repayment Assistance Plan		3.0
Total		15.4
On outstanding recoverable interest	**Year Since Default**	(%)
Allowance for bad debt – interest	1st	29.6
	2nd	42.0
	3rd	53.2
	4th	63.2
	5th	73.4
	6th	61.7
	7th	62.2
	8th	63.0
	9th	64.2
	10th	65.9
	11th	68.5

Table 3 contains a summary of the best-estimate assumptions described previously.

Table 3 Best-estimate Assumptions

1. Total fertility rate for Canada	1.65 per woman
2. Mortality	Canadian Human Mortality Database
3. Net migration rate	0.53% of the population up to 2018, increasing to 0.58% in 2023
4. Youth participation rate (participating provinces/territory, ages 15-29)	70.5% (2011-12) 71.4% (2012-13) 72.2% (2013-14) ⋮ 74.5% (2035-36)
5. Real wage increase	0.5% (2011-12) 0.7% (2012-13) ⋮ 1.3% (2019-20+)
6. Inflation	2.1% (2011-12) 2.0% (2012-13) ⋮ 2.3% (2019-20+)
7. Tuition fee increases	3.9% (2011-12) 3.9% (2012-13) 3.9% (2013-14) 3.9% (2014-15) ⋮ CPI + 2.5% (2019-20+)
8. Government cost of borrowing	2.1% (2011-12) ⋮ 4.8% (2019-20+)
9. Student borrowing cost	5.5% (2011-12) ⋮ 7.6% (2019-20+)
10. Provision rate for bad debt – principal	12.4% (2011-12+)
11. Provision rate for RAP – principal	3.0% (2011-12+)
12. Provision rates for bad debt – interest	29.6% (Interest on loans in default for less than a year) ⋮ 61.7% (Interest on loans in default for 5 to 6 years) ⋮ 100.0% (Interest on loans in default for 14 to 15 years)

B. Projection of Total Loans Issued

The purpose of this section is to discuss the projection of the amount of total loans issued by the CSLP. First, the full-time enrolment in post-secondary institutions is projected. Next, the future number of students participating in the CSLP is determined using a projection of the distribution of assessed need for CSLP students. Finally, the previous elements are combined to project the amount of total loans issued.

1. Projection of Full-time Post-secondary Enrolment

The projection of full-time students in post-secondary institutions must be determined first since the demand for the CSLP is linked to the number of students enrolled in post-secondary institutions. Demographics and post-secondary enrolment will have the largest impact on the progression of full-time students attending post-secondary institutions.

a) Demographic Projections

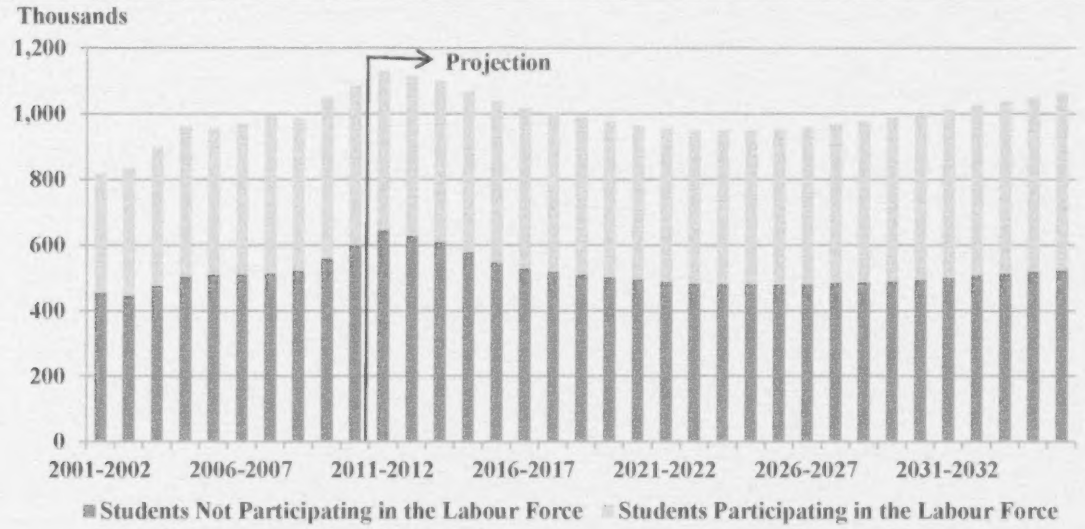
Demographic projections are based on the population projected in the 25th Actuarial Report on the Canada Pension Plan as at 31 December 2009. The population of Canada less Québec, Northwest Territories, and Nunavut is used to project the number of students enrolled in post-secondary institutions.

In the first thirteen years of the projection, the population aged 15-29 is expected to decrease due to the decreasing fertility rates experienced during the corresponding years of birth of this cohort. Indeed, back to those years of birth of the cohort, the baby-boomers were toward the tail-end of their childbearing ages and the fertility rate for the following generation was lower. Thus, the population aged 15-29 is expected to decrease from 5,400,000 in 2010-11 to 4,992,000 by 2023-24. In the following twelve years of the projection, the population aged 15-29 is expected to increase and reach 5,526,000 by 2035-36, assuming that the recent increase in fertility rates will continue in the future. Overall, as Table 4 shows, a small increase of 126,000 is expected in the population aged 15-29 over the 25-year projection period.

b) Post-secondary Enrolment

The number of students enrolled full-time in post-secondary institutions is based on both the evolution of the population in labour force (persons who are employed or looking for employment) and the population not in labour force. The individuals who are not participating in the labour force may be more inclined to pursue a post-secondary education; however, due to economic pressures, many students are working part-time or looking for employment during the course of their post-secondary education and are thus part of the labour force population. Historically, since 2000-01, on average 45% of students enrolled in post-secondary institutions were participating in the labour force while 55% were not participating in the labour force. As described in Appendix 3, post-secondary enrolment has been projected separately according to the labour force status. Chart 1 shows both the historical and the projected post-secondary enrolment by labour force status for the students aged 15-29.

Chart 1 Evolution of Enrolment in Post-Secondary Institutions by Labour Force Status



Enrolment in post-secondary institutions also varies according to the student's age group, gender and whether the student is in college or university. As a result, in addition to the labour force status populations, enrolment is separated into these groups for projection purposes. Non-permanent residents are excluded from the projection since they are not eligible for loans.

Enrolment data from Statistics Canada's Labour Force Survey is used as it permits to determine the proportion of students in post-secondary institutions that are in the labour force population and has up-to-date data available. Table 4 shows the evolution of the yearly average population aged 15-29, along with the number of students aged 15-29, enrolled full-time in a post-secondary institution. The students aged 15-29 are used for illustrative purposes as they represent more than 85% of the total post-secondary enrolment and better demonstrate the movement of this population across time. Total full-time enrolment in post-secondary institutions (all ages) is also presented in Table 4.

Table 4 Population and Post-secondary Enrolment

Loan Year	Population of Canada Less Québec, Nunavut, and NWT (15-29) (Thousands)	Students Enrolled[1] Full-time (15-29) (Thousands)	Students Enrolled[1] Full-time (Total) (Thousands)	Increase (Thousands)	Growth Rate (%)
2010-2011	5,400	1,085	1,248	-	-
2011-2012	5,409	1,130	1,290	41.6	3.3
2012-2013	5,400	1,117	1,277	-13.1	-1.0
2013-2014	5,375	1,100	1,261	-15.8	-1.2
2014-2015	5,338	1,070	1,233	-28.0	-2.2
2015-2016	5,297	1,040	1,204	-28.9	-2.3
2016-2017	5,249	1,016	1,182	-21.6	-1.8
2017-2018	5,202	1,001	1,169	-13.5	-1.1
2018-2019	5,158	988	1,157	-12.2	-1.0
2019-2020	5,110	976	1,146	-10.8	-0.9
2020-2021	5,058	964	1,135	-11.0	-1.0
2021-2022	5,021	954	1,126	-8.6	-0.8
2022-2023	4,999	949	1,122	-4.7	-0.4
2023-2024	4,992	948	1,121	-0.9	-0.1
2024-2025	4,994	949	1,122	1.5	0.1
2025-2026	5,005	952	1,125	2.7	0.2
2026-2027	5,028	959	1,131	5.8	0.5
2027-2028	5,064	967	1,139	7.7	0.7
2028-2029	5,109	977	1,147	8.7	0.8
2029-2030	5,160	987	1,156	8.6	0.8
2030-2031	5,214	998	1,167	10.6	0.9
2031-2032	5,277	1,012	1,181	14.1	1.2
2032-2033	5,342	1,026	1,195	14.1	1.2
2033-2034	5,406	1,038	1,208	13.1	1.1
2034-2035	5,466	1,050	1,220	12.4	1.0
2035-2036	5,526	1,060	1,231	11.0	0.9

The population enrolled full-time in a post-secondary institution is projected to increase by 42,000 (1,248,000 to 1,290,000) during the first year of the projection period due in part to the recent economic downturn that resulted in youths returning to their studies rather than entering the labour market. Afterward, the number of students enrolled full-time decreases until loan year 2023-24 and then follows the increasing movement of the population aged 15-29 for the rest of the projection period.

Due to the change in the methodology, the projected number of students enrolled full-time is higher compared to the previous report, especially for the long-term. The enrolment was previously determined only in relation to the population not in the labour force; however, a proportion of students are part of the labour force population. Hence, the enrolment is now projected based on the labour force status in connection with the labour force shortage integrated in the population projections.

[1] Full-time enrolment in post-secondary institutions in Canada, excluding Québec.

2. Number of Students in the Canada Student Loans Program

To project the number of students in the CSLP, it is necessary to determine the future distribution of student need, as well as the average student need. Not everyone enrolled in a post-secondary institution is eligible to participate in the CSLP. The need assessment process determines whether students are eligible for a loan, and if so, the amount they are eligible to receive. A student's need is defined as the excess of expenses over resources, if positive. The expenses assessed include tuition fees, books, shelter, food and transportation. The resources assessed include student earnings, assets and parental contributions. Future distributions of student need are projected using the CSLP need assessment data provided by Human Resources and Skills Development Canada (HRSDC).

For projection purposes, students' needs are modelled using the need assessment data file for loan year 2009-10. Students are first separated into three groups based on their living arrangement and a distinct need curve is developed for each group. The results are aggregated using a weighted average based on the number of students.

Table 5 Average Student Need

Loan Year	Resources ($) (1)	Tuition ($) (2)	Other Expenses ($) (3)	Total Expenses ($) (2) + (3)	Average Student Need ($) (2) + (3) - (1)	Average Student Need Increase ($)
2010-2011	4,400	6,500	9,500	16,100	11,700	-
2011-2012	4,500	6,800	9,800	16,600	12,000	300
2012-2013	4,700	7,100	10,000	17,100	12,400	400
2013-2014	4,800	7,300	10,200	17,600	12,800	400
2014-2015	4,900	7,600	10,500	18,100	13,200	400
2015-2016	5,100	8,000	10,700	18,600	13,600	400
2016-2017	5,200	8,300	10,900	19,200	14,000	400
2017-2018	5,400	8,700	11,200	19,800	14,400	400
2018-2019	5,500	9,100	11,400	20,500	14,900	500
2019-2020	5,700	9,500	11,700	21,100	15,400	500
2020-2021	5,900	9,900	11,900	21,800	15,900	500
2021-2022	6,200	10,400	12,200	22,600	16,400	500
2022-2023	6,400	10,900	12,500	23,400	17,000	600
2023-2024	6,600	11,400	12,700	24,200	17,600	600
2024-2025	6,800	12,000	13,000	25,000	18,100	500
2025-2026	7,100	12,500	13,300	25,800	18,700	600
2026-2027	7,300	13,100	13,600	26,700	19,400	700
2027-2028	7,600	13,700	13,900	27,600	20,000	600
2028-2029	7,900	14,400	14,200	28,500	20,700	700
2029-2030	8,200	15,100	14,500	29,500	21,400	700
2030-2031	8,500	15,800	14,800	30,600	22,100	700
2031-2032	8,800	16,500	15,100	31,600	22,900	800
2032-2033	9,100	17,300	15,400	32,800	23,700	800
2033-2034	9,400	18,100	15,800	33,900	24,500	800
2034-2035	9,800	19,000	16,100	35,200	25,400	900
2035-2036	10,100	19,900	16,500	36,400	26,300	900

Table 5 summarizes the three main elements of student need, as well as the average student need. The average resources and expenses specific to the students receiving a loan are considered.

Tuition fees are the primary source of increases in student need and are ultimately indexed at 2.5% above inflation. Tuition has been, on average, 2.7% above inflation over the last ten years,

and 3.8% above inflation over the last fifteen years. Other expenses, which include books, shelter, food and transportation, are indexed at the rate of inflation. Resources are increased at a slower pace than tuition and are ultimately indexed at 1.3% above inflation.

Table 5 shows average tuition fees rising from $6,500 in 2010-11 to $19,900 in 2035-36. In fact, tuition fees rise from 147% of a student's available resources in 2010-11 to 197% in 2035-36.

Chart 2 CSLP Student Projected Need Curve for Single Living at Home

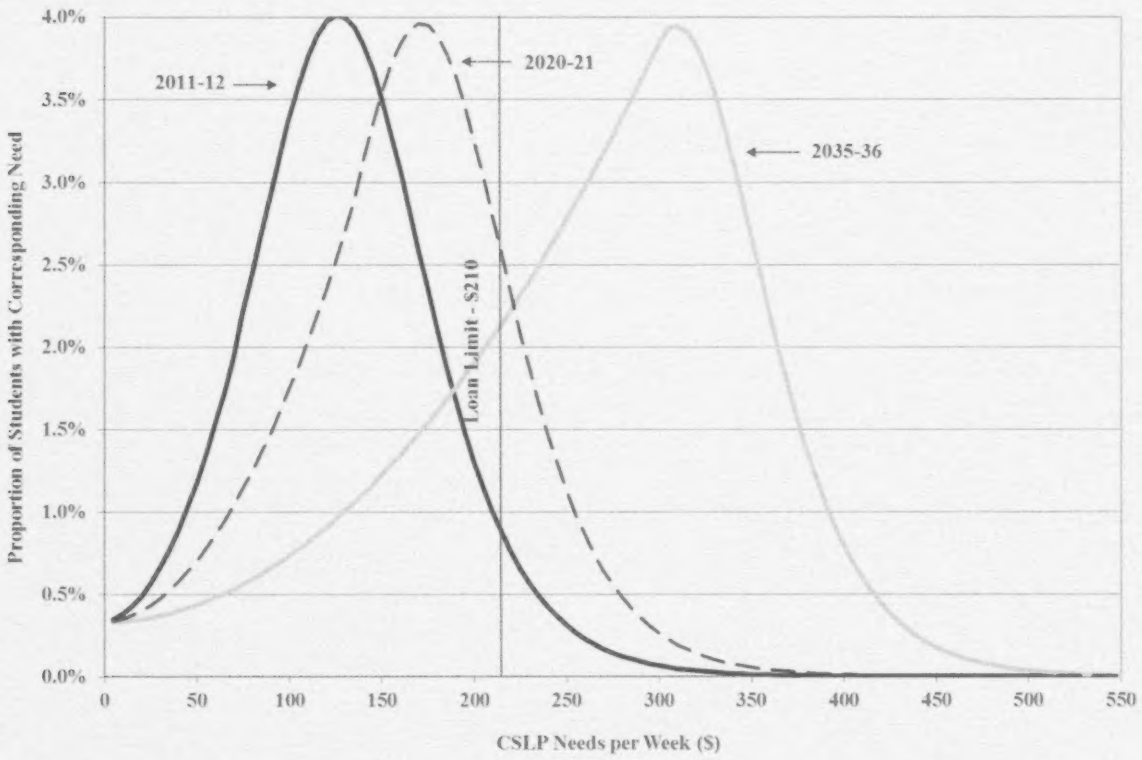


Chart 2 is a projection of the CSLP student need curves for the group of single dependent and single independent students, living at home, for three years during the twenty-five year projection period. The area under each successive need curve grows from year to year and represents the increased participation in the CSLP. The CSLP loan uptake rate is defined as the proportion of students enrolled full-time in a post-secondary institution who take a loan in the CSLP. The vertical line at $210 in Chart 2 represents the current loan limit. Any borrower whose need falls to the right of this line will receive a loan equal to the limit. Those whose need does not exceed the loan limit are eligible to receive a loan amount equal to their entire need. The effect that the constant loan limit has on new loans issued is apparent since the area under the curves and to the right of the vertical line is increasing through time.

During the projection period, the modelled need curves become flatter as students move further to the right of the curve due to increased need. Need will increase if expenses are increasing faster than resources, as is assumed. The need assessment data show that students with high need have a very low level of resources. Thus students to the right of the peak of the need curve have few resources and will see a large increase in their need. Those to the left of a peak will experience an increase in need less than the average since any increase in need should be

partially offset by an increase in resources. It is anticipated that as student need increases, newly eligible participants will enter to the left of the peak. New participants will enter the CSLP because their previously negative need became positive or their need increased enough that it became worthwhile to take the loan. It is expected that as need increases, participants will move towards the right of the peak.

Table 6 shows the evolution of loan recipients over the 25-year projection period. An increase in the loan uptake rate is expected as tuition fees and other expenses grow at a faster rate than resources. This is the main cause of the increase in loans issued over the 25-year period.

The product of the number of students enrolled full-time and the CSLP loan uptake rate resulting from each successive need curve, which is slightly increased to include part-time students, gives the number of students in the CSLP. Table 6 shows that the loan uptake rate is expected to increase from 34% in 2010-11 to 54% in 2035-36, adding 233,000 students to the Program. Thus, the number of students in the Program is projected to increase from 429,000 in 2010-11 to 662,000 in 2035-36. The number of students in the CSLP shown in Table 6 represents those who receive a Canada Student Loan in each loan year excluding the small proportion of students who only receive a Grant under the Canada Student Grants Program (CSGP). As such, some students may receive a grant higher than their assessed need, which reduces their loan to zero, therefore reducing the projected number of students receiving a loan.

Budget 2011 expands the eligibility for CSLP by doubling the in-study income of full-time students from $50 per week to $100 per week. This allows full-time students to work more without affecting their loans. This enhancement to the program increases the number of students receiving a loan and amount of loans issued. This amendment to the program is in force in two provinces for loan year 2011-12 and is assumed to be implemented to all provinces in the next loan year.

Table 6 Loan Recipients

Loan Year	Students Enrolled Full-Time (thousands)	Loan Uptake Rate (%)	Students in CSLP (thousands)	Annual Increase in CSLP Students (thousands)	Annual Increase in CSLP Students (%)
	(1)	(2)	(1) x (2)		
2010-2011	1,248	34.3	429	-	-
2011-2012	1,290	35.2	454	25	5.9
2012-2013	1,277	35.7	455	1	0.3
2013-2014	1,261	35.9	453	-2	-0.5
2014-2015	1,233	36.3	447	-6	-1.4
2015-2016	1,204	36.6	441	-6	-1.3
2016-2017	1,182	37.1	439	-3	-0.6
2017-2018	1,169	37.5	439	0	0.0
2018-2019	1,157	38.0	440	1	0.3
2019-2020	1,146	38.5	442	2	0.4
2020-2021	1,135	39.2	445	3	0.7
2021-2022	1,126	39.8	449	4	0.9
2022-2023	1,122	40.5	455	6	1.3
2023-2024	1,121	41.3	463	8	1.8
2024-2025	1,122	42.1	473	10	2.1
2025-2026	1,125	43.0	484	11	2.3
2026-2027	1,131	43.8	496	12	2.5
2027-2028	1,139	44.8	510	15	2.9
2028-2029	1,147	45.8	525	15	2.9
2029-2030	1,156	46.8	541	16	3.0
2030-2031	1,167	47.9	559	18	3.4
2031-2032	1,181	48.9	578	19	3.4
2032-2033	1,195	50.2	599	21	3.7
2033-2034	1,208	51.3	620	21	3.4
2034-2035	1,220	52.5	641	21	3.4
2035-2036	1,231	53.7	662	21	3.2

3. New Loans Issued

This section focuses on the determination of the amount of new loans issued in each loan year. The three factors primarily responsible for the evolution of new loans issued are student need, the amount of grants disbursed under the CSGP and the percentage of students reaching the loan limit.

Firstly, an increasing student need will put growing pressure on new loans issued as more students become eligible for, and take, a loan, while those who were previously eligible become eligible for a larger loan. Table 7 shows that the average student need increases from $11,666 in 2010-11 to $26,324 in 2035-36. Although increasing student need causes more students to become eligible to receive a loan, loans to newly eligible individuals are smaller in size and, therefore, slow the growth of the average loan size. This indirectly contributes to moderating the average loan growth over the 25-year projection period.

Secondly, the CSGP introduced in loan year 2009-10 alleviates the financial need of many students thus reducing the amount of loans issued in the Program for the remainder of the projection period. The amount of grants disbursed is projected to grow from $623 million in 2010-11 to $926 million in 2035-36 (see Table 15). As the percentage of students that reach the $210 per week loan limit increases, the impact of the new grants on loans issued is projected to

diminish over time since a greater proportion of students receiving grants will be above the loan limit due to increasing need; therefore, students will be more inclined to take the full loan amount for which they are eligible. In 2010-11, it is estimated that loans issued were reduced by $150 million due to the CSGP. This is expected to decrease to $79 million in 2035-36. The CSGP is described in Appendix 1. The monthly grant payments for students from low- and middle-income families are set in the *Canada Student Financial Assistance Regulations* and are assumed to remain constant for the entire projection period. A sensitivity test that indexes the grant amount to inflation is presented in Appendix 4.

Thirdly, a constant loan limit (presently 210$ per week) will restrict the growth of new loans issued. In loan year 2009-10, the introduction of the CSGP initially decreased the percentage of students at the limit. However, over time, as student need increases and the loan limit remains constant, the percentage of students at the loan limit will continue to grow.

The percentage of students at the loan limit reached 50% in 2004-05 but decreased to 34% in 2005-06 due to an increase in the loan limit from $165 to $210. In 2010-11, the percentage of students at the loan limit is 29.0% and Table 7 shows that this percentage is projected to increase to 82.6% in 2035-36. These students are not eligible for a further increase in loan size despite increasing cost pressures. This situation is graphically depicted in Chart 2 which shows that over the projection period, an increasing proportion of students have needs that equal or exceed the loan limit.

Table 7 Increase in New Loans Issued

Loan Year	Average Student Need ($)	Increase (%)	% of Students at Limit	New Loans Issued ($ million)	Increase (%)	Students in CSLP (Thousands)	Increase (%)	Average Loan Size ($)	Increase (%)
	(1)		(2)	(3)		(4)		(3) / (4)	
2010-2011	11,666	-	29.0	2,227	-	429	-	5,197	-
2011-2012	12,045	3.2	31.2	2,419	8.6	454	5.9	5,329	2.5
2012-2013	12,421	3.1	33.6	2,460	1.7	455	0.3	5,403	1.4
2013-2014	12,793	3.0	36.2	2,491	1.2	453	-0.5	5,496	1.7
2014-2015	13,184	3.1	38.8	2,496	0.2	447	-1.4	5,583	1.6
2015-2016	13,590	3.1	41.4	2,500	0.1	441	-1.3	5,664	1.5
2016-2017	14,016	3.1	43.9	2,519	0.8	439	-0.6	5,742	1.4
2017-2018	14,449	3.1	46.5	2,551	1.3	439	0.0	5,815	1.3
2018-2019	14,916	3.2	48.9	2,589	1.5	440	0.3	5,886	1.2
2019-2020	15,392	3.2	51.3	2,630	1.6	442	0.4	5,954	1.1
2020-2021	15,908	3.4	53.7	2,676	1.8	445	0.7	6,017	1.1
2021-2022	16,443	3.4	56.0	2,728	1.9	449	0.9	6,080	1.1
2022-2023	16,985	3.3	58.3	2,790	2.3	455	1.3	6,137	0.9
2023-2024	17,549	3.3	60.6	2,866	2.7	463	1.8	6,192	0.9
2024-2025	18,127	3.3	62.8	2,950	3.0	473	2.1	6,241	0.8
2025-2026	18,730	3.3	65.1	3,040	3.0	484	2.3	6,287	0.7
2026-2027	19,351	3.3	67.4	3,137	3.2	496	2.5	6,330	0.7
2027-2028	19,986	3.3	69.6	3,249	3.6	510	2.9	6,369	0.6
2028-2029	20,658	3.4	71.7	3,364	3.5	525	2.9	6,406	0.6
2029-2030	21,367	3.4	73.7	3,482	3.5	541	3.0	6,441	0.5
2030-2031	22,095	3.4	75.5	3,617	3.9	559	3.4	6,472	0.5
2031-2032	22,867	3.5	77.1	3,757	3.9	578	3.4	6,501	0.5
2032-2033	23,677	3.5	78.7	3,913	4.1	599	3.7	6,529	0.4
2033-2034	24,525	3.6	80.1	4,063	3.8	620	3.4	6,554	0.4
2034-2035	25,401	3.6	81.4	4,216	3.8	641	3.4	6,577	0.4
2035-2036	26,324	3.6	82.6	4,366	3.6	662	3.2	6,599	0.3

Table 7 shows the annual increase in new loans issued over the 25-year projection period. Overall, the total new loans issued increase from $2,227 million in 2010-11 to $4,366 million in 2035-36, resulting in an average annual increase of 2.7%. This average annual increase can be attributed to two factors: an average annual increase in the number of students in the CSLP of 1.8% and an average annual increase in the average loan size of 0.9%. The average loan size is calculated as the ratio of new loans issued to the number of students in the CSLP. The growth rate of the average loan size is moderated due to the constant loan limit.

New loans issued are driven by an increased number of students becoming eligible for a loan as a result of accelerated student need. The average loan size is not greatly affected since the loan limit is capped over the 25-year period. Any significant increase in the limit would have a major impact on the long-term growth rate of new loans issued.

A sensitivity test demonstrating the effect of annually indexing the limit to the rate of inflation is included in Appendix 4. This scenario demonstrates that the growth rate of new loans issued is significantly higher when the loan limit is increased to better reflect increasing student need.

C. Portfolio Projections

This section presents projections of the portfolio for all three regimes. The amounts for loans in-study represent loans issued to students still in the post-secondary educational system. Interest on loans in-study is fully subsidized by the Government for students in the CSLP. The loans in repayment consist of loans consolidated by students with financial institutions (or the Government) which are still outstanding.

1. Guaranteed and Risk-Shared Portfolios

The guaranteed and risk-shared regimes apply to loans issued before August 2000. Some loans in these regimes are still outstanding since there are still students under these regimes attending post-secondary institutions or repaying their loans. Table 8 presents the projections of the loans, separately for the guaranteed and risk-shared regimes, as well as the projection of defaulted risk-shared loans bought back by the Government (principal only). The projection of risk-shared impaired loans purchased by the Government is necessary to determine when the limit on the aggregate amount of outstanding loans prescribed through the *Canada Student Financial Assistance Regulations* will be reached. The guaranteed and risk-shared regimes are gradually being phased out.

As at July 2011, the sum of all loans in default coming from the guaranteed and risk-shared regimes that are owned by the Government amount to approximately $574 million (principal and interest) and are subject to possible future recoveries. The guaranteed loans in default are not included in the projection of the guaranteed portfolio in Table 8. The Government sets up a separate allowance in the Public Accounts for those loan guarantees, as well as for risk-shared defaulted loans bought back by the Government. This provision calculation is not included in this report.

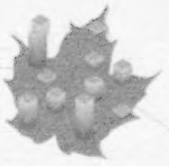


Table 8 Guaranteed and Risk-Shared Regimes Portfolios

As at July 31	Guaranteed			Risk-Shared			
	Loans In-study (with financial institutions)	Loans in Repayment (with financial institutions)	Total	Loans In-study (with financial institutions)	Loans in Repayment (with financial institutions)	Defaulted Loans (bought back by the Government)	Total
	($ million)			($ million)			
2011	3	28	31	40	1,625	143	1,808
2012	2	20	22	27	1,373	134	1,534
2013	1	14	15	16	1,160	123	1,300
2014	-	10	10	9	955	112	1,077
2015	-	7	7	4	718	101	824
2016	-	4	4	2	539	86	626
2017	-	3	3	-	404	72	477
2018	-	2	2	-	302	60	362
2019	-	1	1	-	225	50	276
2020	-	1	1	-	159	39	199
2021	-	-	-	-	113	31	143
2022	-	-	-	-	77	24	101
2023	-	-	-	-	50	19	69
2024	-	-	-	-	28	14	43
2025	-	-	-	-	15	11	26
2026	-	-	-	-	7	8	16
2027	-	-	-	-	3	6	10
2028	-	-	-	-	1	5	6
2029	-	-	-	-	1	4	4
2030	-	-	-	-	1	2	2
2031	-	-	-	-	1	1	1
2032	-	-	-	-	-	-	-
2033	-	-	-	-	-	-	-

2. Direct Loan Portfolio and Allowances

Under the direct loan regime, according to the accounting recommendations under Section PS 3050 Loans Receivable of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants, a provision should be accounted for as a Program expense since the loans are provided by the Government and not financial institutions. The purpose of this provision is to cover all future net costs and risk of loss associated with loans. As a result, the provision avoids overstatement of Program revenues by immediately recognizing the risk of loss.

The projection of the direct loan portfolio includes the balance of outstanding loans (in study and in repayment separately) and the projection of loans in default for which students have stopped making payments. There are two allowances for bad debt (principal and interest separately) to cover the risk of future default, net of recoveries, and an allowance for RAP (principal) to cover the future cost of students benefiting from this program disposition.

The projection of the direct loan portfolio and allowances is shown in Table 9. The projections use the consolidation, default and recovery distributions discussed in Appendix 3. The distributions of defaults and recoveries for the direct loan regime are based on direct loans experience. The future default and recovery rates remain the same as the previous report at 16.0% and 26.0% respectively. Overall, the corresponding future net default rate is 11.8%.

In the short-term, the default rate is temporarily adjusted to take into account the recent economic downturn. It is anticipated that some of the borrowers will experience hardship in making their monthly student loan payments and may either default or apply for RAP. It appears that the proportion of borrowers experiencing financial hardship as a consequence of the economic situation and defaulting remains higher than expected, which is in accordance with the employment rates for the age groups where borrowers in repayment are more heavily weighted (mainly 25-29 age group) that show a slower recovery than expected.

For the 2011-12 consolidation cohort, the default rate corresponds to 19.7% and gradually decreases to the best-estimate assumption of 16.0% for the 2017-18 consolidation cohort.

Table 9 Direct Loan Portfolio and Allowances

					Allowance for		
As at July 31	Loans In-study	Loans in Repayment	Defaulted Loans	Total	Bad Debt Principal	Bad Debt Interest	Repayment Assistance Plan – Principal
		($ million)				($ million)	
2011	5,248	6,228	1,826	13,302	2,588	243	572
2012	5,586	6,707	1,863	14,156	2,683	208	619
2013	5,845	7,177	2,021	15,043	2,887	225	662
2014	6,010	7,638	2,167	15,816	3,063	247	700
2015	6,060	8,129	2,296	16,484	3,205	279	731
2016	6,086	8,540	2,406	17,033	3,315	314	759
2017	6,127	8,842	2,489	17,457	3,397	348	782
2018	6,178	9,100	2,532	17,810	3,462	378	805
2019	6,262	9,300	2,566	18,129	3,514	402	824
2020	6,351	9,486	2,589	18,425	3,554	420	842
2021	6,448	9,651	2,602	18,701	3,585	432	858
2022	6,556	9,805	2,609	18,969	3,612	439	873
2023	6,680	9,952	2,616	19,247	3,639	443	889
2024	6,827	10,102	2,628	19,557	3,677	446	904
2025	6,995	10,265	2,649	19,910	3,726	451	920
2026	7,182	10,452	2,679	20,314	3,787	456	936
2027	7,388	10,666	2,718	20,772	3,860	461	953
2028	7,620	10,907	2,764	21,291	3,944	467	972
2029	7,869	11,180	2,818	21,867	4,038	474	993
2030	8,134	11,482	2,879	22,495	4,142	481	1,016
2031	8,424	11,812	2,948	23,184	4,257	490	1,043
2032	8,734	12,174	3,025	23,933	4,383	499	1,073
2033	9,071	12,568	3,110	24,749	4,522	510	1,106
2034	9,420	12,996	3,203	25,618	4,671	522	1,143
2035	9,779	13,455	3,304	26,538	4,830	535	1,182
2036	10,141	13,942	3,414	27,498	4,998	550	1,224

As at 31 July 2011, the outstanding direct loan portfolio is $13.3 billion and is retrospectively derived from new loans issued during loan years 2000-01 to 2010-11 ($20.1 billion), plus the interest accrued during the grace period for these eleven years, minus repayments, loans forgiven, and debt reduction in repayment (under the former DRR measure or the new RAP). The defaulted loans are part of the assets and are included in the direct loan portfolio projection. The portfolio increases rapidly to reach $17.0 billion within the next five years. By the end of loan year 2035-36, the portfolio reaches $27.5 billion.

Allowance for Bad Debt – Principal: Table 10 provides the details of the calculations for the projection of the defaulted loans portfolio and the allowance for bad debt – principal under the direct loan regime.

Table 10 Defaulted Loans and Allowance for Bad Debt – Principal

	Defaulted Loans Portfolio					Allowance for Bad Debt – Principal			
Loan Year	Balance 1 August	Defaulted Loans	Collected Loans	Write-offs	Balance 31 July	Allowance 1 August	Write-offs	Allowance 31 July	Yearly Expense
			($ million)				($ million)		
	(1)	(2)	(3)	(4)	(1+2) - (3+4)	(1)	(2)	(3)	(3) - (1 - 2)
2010-2011	1,609	311	93	-	1,826	2,297	-	2,588	291
2011-2012	1,826	350	93	221	1,863	2,588	221	2,683	316
2012-2013	1,863	365	95	111	2,021	2,683	111	2,887	315
2013-2014	2,021	378	98	133	2,167	2,887	133	3,063	309
2014-2015	2,167	386	101	156	2,296	3,063	156	3,205	299
2015-2016	2,296	389	104	175	2,406	3,205	175	3,315	285
2016-2017	2,406	377	102	192	2,489	3,315	192	3,397	274
2017-2018	2,489	354	99	211	2,532	3,397	211	3,462	277
2018-2019	2,532	359	95	230	2,566	3,462	230	3,514	281
2019-2020	2,566	362	94	246	2,589	3,514	246	3,554	286
2020-2021	2,589	367	94	260	2,602	3,554	260	3,585	291
2021-2022	2,602	372	94	270	2,609	3,585	270	3,612	297
2022-2023	2,609	377	95	276	2,616	3,612	276	3,639	304
2023-2024	2,616	383	96	275	2,628	3,639	275	3,677	312
2024-2025	2,628	390	97	272	2,649	3,677	272	3,726	322
2025-2026	2,649	398	98	270	2,679	3,726	270	3,787	332
2026-2027	2,679	408	99	270	2,718	3,787	270	3,860	342
2027-2028	2,718	418	101	271	2,764	3,860	271	3,944	355
2028-2029	2,764	430	103	273	2,818	3,944	273	4,038	368
2029-2030	2,818	442	105	276	2,879	4,038	276	4,142	381
2030-2031	2,879	456	107	280	2,948	4,142	280	4,257	396
2031-2032	2,948	471	110	285	3,025	4,257	285	4,383	411
2032-2033	3,025	488	113	290	3,110	4,383	290	4,522	428
2033-2034	3,110	505	117	296	3,203	4,522	296	4,671	445
2034-2035	3,203	524	120	302	3,304	4,671	302	4,830	461
2035-2036	3,304	544	124	310	3,414	4,830	310	4,998	478

In order to determine the amount of the allowance at a particular point in time, a prospective methodology is used from a snapshot of the portfolio at that time. This approach determines the value of the allowance based on the status of loans. This method considers prior cohorts experience and permits faster recognition of new trends for current and new cohorts of loans.

The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or in default (according to the number of years since default). Future assumed rates of default and recovery are applied to these portfolio amounts to determine the allowance that must be set aside to cover future write-offs.

First, an allowance on the balance of loans in-study is determined using a provision rate of 12.4% which corresponds to a net default rate of 11.8% and an additional upward adjustment of 0.6% for interest accrued during the grace period. An upward adjustment is required because the provision rate is applied to loans issued rather than loans consolidated. The difference between

loans at consolidation and loans at issuance is the interest accrued during the grace period which is capitalised into loans at consolidation.

The 12.4% provision rate is applied to the balance of loans in-study, which is calculated at the end of each loan year as:

- the balance of loans in-study at the end of the previous year;
- plus loans issued during the year;
- less the sum of prepaid loans (i.e. paid while in-study or during the six month grace period before consolidation), and loans forgiven while in-study or during the grace period;
- less the value of loans consolidated during the year;
- as well, any loan adjustment due to a re-evaluation must be considered.

Second, an allowance on the balance of loans in repayment is determined. Future defaults are first projected according to the number of years since consolidation. The recovery rate assumption is then applied to determine the portion of projected defaulted loans that will not be recovered. This result corresponds to the allowance on the balance of loans in repayment. The future recovery rate is 26% by default cohort; hence, it is assumed that 74% (1 – 26%) of the projected defaulted loans will not be recovered.

Finally, an allowance is determined on the balance of loans in default that will not be recovered. The level of the total allowance is determined at the end of the year. The expense for bad debt – principal is equal to the difference between the total allowance at the end of a year and the previous year's allowance net of write-offs that have occurred during the year.

Future default and recovery rates are unchanged from the previous report at 16% and 26%, respectively. As a result of the economic downturn, the default rate by consolidation cohort has been temporarily increased. The default rate is revised upward to 19.7% for the 2011-12 consolidation cohort and gradually returns to the best-estimate long term assumption of 16% in 2017-18, which is two years later compared to the previous report. The write-offs are projected using a 15-year distribution starting in the sixth year following default. A large portion of write-offs occur in the first three years of the distribution to take into account the six-year limitation period and the transfer of defaulted loans to the non-recoverable status. The first significant amount of write-offs was approved by the House of Commons on December 5th, 2011. The administrative transactions related to these write-offs occurred in January 2012 and correspond to $106 million. An additional amount of unrecoverable student loans was approved for write-offs on March 14th 2012. The administrative transactions related to these write-offs occurred in April 2012 and correspond to $115 million in principal. As shown in Table 10, the total amount of write-offs in 2011-12 is $221 million and includes all non-recoverable loans that have reached the statute of limitations by March 2011. To take into account the administrative write-off process for projection purposes, a lag of a number of months is expected between the time when the loan is recognized as non-recoverable and has exceeded the limitation period, and the time it is actually written-off.

For loan year 2010-11, the yearly expense of $291 million corresponds to the difference between the new allowance of $2,588 million and the total allowance at the end of loan year 2009-10 which was established to be $2,297 million in the previous report.

In the Public Accounts, Human Resources and Skills Development Canada should show an allowance as at 31 March 2012 corresponding to the allowance of $2,588 million as at

31 July 2011, increased by 12.4% of the monthly net loans issued, reduced by write-offs, if any, for the months from August 2011 to March 2012. For the following fiscal years, the same methodology can be used to determine the allowance.

Allowance for Bad Debt – Interest: In accordance with the collection practice, interest accrues on defaulted loans until the loans reach a "non-recoverable" status. A provision is set to cover the risk that such accrued interest will never be recovered. The provision methodology is the same as in the previous report. Provision rates are modified to take into account the recent experience. Chart 3 represents the set of provision rates according to the year since default. The methodology and provision rates are provided in Appendix 3.

Chart 3 Provision Rates for Allowance for Bad Debt – Interest

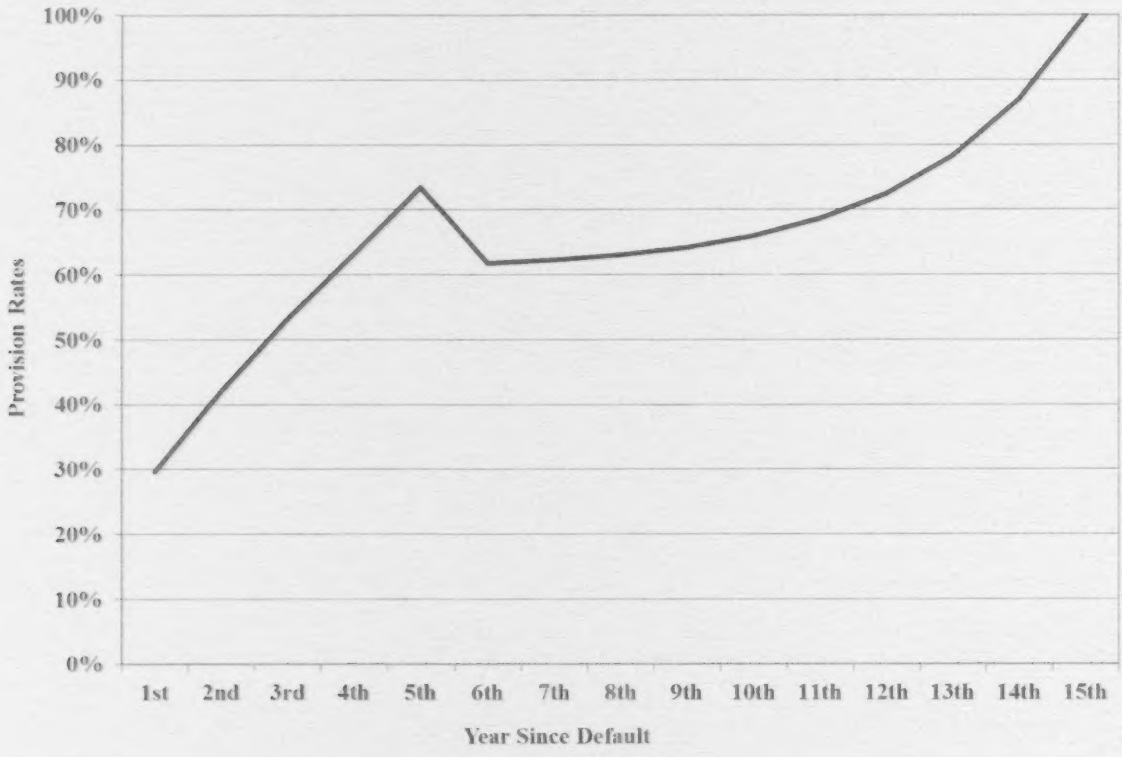
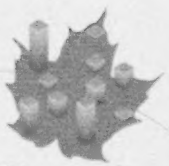


Table 11 Interest on Defaulted Loans and Allowance for Bad Debt – Interest

	Interest on Defaulted Loans						Allowance for Bad Debt – Interest			
Loan Year	Balance August 1	Interest Transferred in Default	Interest Accrued[1]	Interest Collected	Write Off	Balance July 31	Allowance August 1	Write Off	Allowance July 31	Yearly expense
	($ million)						($ million)			
	(1)	(2)	(3)	(4)	(5)	(1+2+3)-(4+5)	(1)	(2)	(3)	(3)-(1-2)
2010-2011	278	13	82	51	-	323	209	-	243	34
2011-2012	323	16	91	54	82	293	243	82	208	47
2012-2013	293	17	103	59	38	317	208	38	225	54
2013-2014	317	20	119	66	40	349	225	40	247	63
2014-2015	349	23	143	76	44	396	247	44	279	76
2015-2016	396	23	154	84	47	443	279	47	314	82
2016-2017	443	23	159	89	51	484	314	51	348	85
2017-2018	484	21	161	91	57	519	348	57	378	87
2018-2019	519	22	162	93	64	546	378	64	402	88
2019-2020	546	22	163	94	71	565	402	71	420	89
2020-2021	565	22	164	95	77	579	420	77	432	89
2021-2022	579	22	164	96	82	587	432	82	439	89
2022-2023	587	23	164	96	85	592	439	85	443	89
2023-2024	592	23	165	97	86	597	443	86	446	90
2024-2025	597	23	167	99	86	603	446	86	451	90
2025-2026	603	24	168	100	86	609	451	86	456	91
2026-2027	609	24	171	101	87	617	456	87	461	92
2027-2028	617	25	174	103	88	625	461	88	467	94
2028-2029	625	26	177	104	89	635	467	89	474	95
2029-2030	635	27	181	107	90	645	474	90	481	97
2030-2031	645	27	185	109	91	657	481	91	490	99
2031-2032	657	28	190	112	93	671	490	93	499	102
2032-2033	671	29	195	115	94	686	499	94	510	105
2033-2034	686	30	201	118	96	704	510	96	522	108
2034-2035	704	31	207	122	98	723	522	98	535	111
2035-2036	723	33	214	126	100	744	535	100	550	115

The projection of the balance of interest on defaulted loans is presented in Table 11. When the loan is transferred to the Government after nine months without a payment, it comes with an interest portion, representing generally around nine months, or a little more, of interest accrued on the principal transferred. Table 11 shows that the interest returned to the Government along the defaulted principal portion of the loans is $13 million for loan year 2010-11. Then, the interest is accruing on the portion of the defaulted loans portfolio that is considered recoverable. This represents an amount of $82 million in loan year 2010-11. When some payments are recovered by the Canada Revenue Agency from borrowers in default, payments are first applied to interest. As such, an amount of $51 million has been recovered in loan year 2010-11. Finally, the interest amounts are written-off after the loan has exceeded the limitation period. An amount of $38 million in interest has been written-off in January 2012. An additional amount of $44 million has further been written off in April 2012. As for the principal, the projection of interest write-offs also takes into account the administrative process which generates a lag of a number of months. As shown in Table 11, the balance of interest in default was $278 million at the beginning of loan year 2010-11 and increased to $323 million as at 31 July 2011. The

[1] Interest accrued on defaulted loans considered recoverable.



balance of interests in default is projected to increase to $744 million by the end of the projection period.

The allowance for bad debt – interest on recoverable accounts is determined using the outstanding interest and a variable provision rate for each year since default. The provision rate is set at 29.6% for interest defaults occurring in the first year and increases for the four years following the default. There is a step down in the sixth year, based on the experience of defaulted loans transferred to the "non-recoverable" status, followed by an increase each year thereafter. Under this methodology, the increasing provision rate reflects the fact that the difficulty of recovering defaults increases as the time since default increases. The allowance on non-recoverable accounts is 100% and the interest on these accounts is written off over a 15-year period, starting in the sixth year after the default occurs. The annual expense is equal to the difference between the allowance at the end of a given year and the allowance of the previous year net of write-offs during the year. In the Public Accounts, Human Resources and Skills Development Canada is using this methodology to calculate the allowance and annual expense as at 31 March of each year. The allowance as at 31 March 2012 is determined using the provision rates shown in Table 2 and is around $196 million. The allowance for the following fiscal years could also be determined using these provision rates.

For loan year 2010-11, the yearly expense of $34 million corresponds to the difference between the allowance of $243 million as at 31 July 2011 and the total allowance at the end of loan year 2009-10 which was established to be $209 million in the previous report.

Allowance for Repayment Assistance Plan - Principal: Table 12 provides the details of the calculation for the projection of the allowance for the Repayment Assistance Plan (RAP) under the direct loan regime.

Table 12 Allowance for Repayment Assistance Plan – Principal

Loan Year	Allowance 1 August ($ million) (1)	RAP Expenses ($ million) (2)	Allowance 31 July ($ million) (3)	Yearly Expense ($ million) (3) - (1-2)
2010-2011	252	9	572	329
2011-2012	572	17	619	64
2012-2013	619	22	662	65
2013-2014	662	28	700	65
2014-2015	700	34	731	65
2015-2016	731	37	759	65
2016-2017	759	42	782	66
2017-2018	782	44	805	66
2018-2019	805	48	824	68
2019-2020	824	51	842	69
2020-2021	842	54	858	70
2021-2022	858	56	873	71
2022-2023	873	58	889	73
2023-2024	889	60	904	75
2024-2025	904	62	920	77
2025-2026	920	64	936	80
2026-2027	936	65	953	82
2027-2028	953	66	972	85
2028-2029	972	67	993	88
2029-2030	993	68	1,016	92
2030-2031	1,016	68	1,043	95
2031-2032	1,043	69	1,073	99
2032-2033	1,073	70	1,106	103
2033-2034	1,106	71	1,143	107
2034-2035	1,143	72	1,182	111
2035-2036	1,182	73	1,224	115

Effective August 2009, RAP replaced the Interest Relief (IR) and Debt Reduction in Repayment (DRR) measures. For RAP (Stages 1 and 2) – Interest, a provision is determined by HRSDC for accounting purposes to take into account the timing of the interest accrued. Table 12 shows the projection of the allowance for the principal portion of the required payment paid by the Government under Stage 2, including RAP for borrowers with permanent disabilities (RAP – PD).

Compared to the former DRR measure, it is expected that the utilization of the RAP will be higher in the long term. However, the Government's RAP expenses are initially lower since principal reductions are done on a monthly basis under RAP as opposed to three possible larger principal reductions under the former DRR measure. Overall, this increases the projected expenses for a given consolidation cohort. The provision rate for RAP – Principal was set at 1.8% in the previous report and it was mentioned that this rate will be revised in the coming years according to experience. RAP is still a relatively new program with limited experience but the RAP expenses during the 2010-11 loan year and the first few months of the 2011-12 loan year were significantly higher than expected. Moreover, there was a significant amount of principal paid under RAP-PD. This is due to the amendments introduced in August 2009 to

clarify that forgiveness of loans for permanent disability is limited to severe permanent disability. As a result, borrowers with a permanent disability who do not qualify for loans forgiveness may apply for RAP-PD.

The provision rate is increased to 3.0%. The experience will continue to be monitored closely and the provision rate may require further adjustments in the coming years.

As for the allowance for bad debt – principal, the provision rate of 3.0% is applied to net loans issued. The allowance at the beginning of loan year 2010-11 was calculated to be $252 million in the previous report and, as shown in Table 12, the allowance at the end of loan year 2010-11 is $572 million. This includes a retroactive adjustment of $270 million to take into account the difference between the new provision rate of 3.0% and the previous provision rate of 1.8% applied to loans issued before 2010-11. The resulting annual expense for 2010-11 is $329 million and corresponds to the difference between the allowance as at 31 July 2011 using the increased provision rate of 3.0% and the allowance for the previous year that was calculated using the lower provision rate of 1.8%, net of RAP expenses that have occurred during the year. The yearly expense is projected to be $64 million for the 2011-12 loan year.

In the Public Accounts, Human Resources and Skills Development Canada should show an allowance as at 31 March 2012 corresponding to the allowance of $572 million as at 31 July 2011, increased by 3.0% of the monthly net loans issued minus RAP expenses for the months from August 2011 to March 2012. For the following fiscal years, the same methodology can be used to determine the allowance.

For comparison purposes, Table 13 shows the direct loan portfolio in 2011 constant dollars. Starting in loan year 2017-18, the portfolio decreases since the assumed inflation rate is higher than the annual growth of the portfolio in Table 9.

Table 13 Direct Loan Portfolio and Allowances (in millions of 2011 constant dollars)[1]

As at 31 July	Loans In-study	Loans in Repayment	Defaulted Loans	Total	Allowance for Bad Debt Principal	Allowance for Bad Debt Interest	Allowance for RAP – principal
2011	5,248	6,228	1,826	13,302	2,588	243	572
2012	5,469	6,567	1,824	13,859	2,627	204	606
2013	5,610	6,889	1,940	14,439	2,771	216	635
2014	5,656	7,188	2,040	14,883	2,882	233	658
2015	5,590	7,500	2,118	15,208	2,957	258	674
2016	5,505	7,725	2,177	15,406	2,998	284	686
2017	5,433	7,841	2,207	15,480	3,012	308	694
2018	5,366	7,903	2,199	15,469	3,007	328	699
2019	5,321	7,904	2,181	15,406	2,986	342	701
2020	5,276	7,880	2,150	15,306	2,952	349	699
2021	5,236	7,837	2,113	15,186	2,911	351	697
2022	5,204	7,783	2,071	15,058	2,867	348	693
2023	5,183	7,722	2,030	14,935	2,824	344	689
2024	5,178	7,662	1,993	14,834	2,789	339	686
2025	5,186	7,611	1,964	14,762	2,763	334	682
2026	5,205	7,576	1,942	14,723	2,745	330	678
2027	5,234	7,557	1,926	14,716	2,734	327	675
2028	5,277	7,554	1,914	14,745	2,731	324	673
2029	5,327	7,569	1,908	14,803	2,733	321	672
2030	5,383	7,598	1,905	14,886	2,741	319	673
2031	5,449	7,641	1,907	14,997	2,754	317	675
2032	5,523	7,698	1,913	15,134	2,772	316	679
2033	5,607	7,769	1,922	15,298	2,795	315	684
2034	5,691	7,852	1,935	15,479	2,822	315	690
2035	5,776	7,947	1,952	15,674	2,853	316	698
2036	5,855	8,049	1,971	15,876	2,886	318	706

3. Limit on Aggregate Amount of Outstanding Loans

The CSFAA imposes a limit on the aggregate amount of outstanding loans in the CSLP. The limit, in section 13 of the CFSAA, has been set at $15 billion since 2000. The previous actuarial report estimated that the aggregate amount of outstanding student loans would reach the $15 billion limit in January 2013. On December 15th, 2011, the Act to implement certain provisions of the 2011 Budget amended the CSFAA to transfer the limit from legislation to regulations. This amendment came into force on March 15th, 2012 with the registration of the *Regulations amending the Canada Student Financial Assistance Regulations*. The Regulations were amended by adding section 18, which prescribes that the outstanding aggregate amount of student loans may not exceed $19 billion. The Regulations also prescribe that both direct loans and risk-shared loans that have been purchased by the Government should be considered to determine the aggregate amount of outstanding student loans.

Table 14 presents the projection of the aggregate amount of outstanding loans. The aggregate amount of outstanding direct loans includes the principal portion of all direct loans disbursed and

[1] For a given year, the value in 2011 constant dollars is equal to the corresponding value divided by the ratio of the cumulative index of the Consumer Price Index (CPI) of that given year to the cumulative index of the CPI for 2011.

not yet repaid, which consists of the total principal amount of loans in study, loans in repayment, and defaulted loans. The aggregate amount of outstanding risk-shared loans includes the principal portion of risk-shared student loans bought back by the Government from financial institutions. Collection activities are performed on these risk-shared loans by the Government.

In comparison with Table 9, which shows the projection of the direct loan portfolio at the end of loan years, Table 14 presents the estimated peak of the portfolio during the loan year. Monthly fluctuations throughout the year cause the aggregate amount of loans to be lower both at the beginning and the end of the loan year, with a peak in the middle of the loan year corresponding to a gap between 2% and 3% compared to the aggregate amount at the end of the loan year. Table 9 shows that, as at 31 July 2011, the aggregate amount of outstanding direct loans was $13.3 billion. Table 14 shows that the highest aggregate amount of outstanding direct loans during loan year 2010-11 was $13.6 billion, which occurred in January 2011.

In January 2012, the total amount of outstanding loans is $14.7 billion. The projection shows that the $19 billion limit will be reached during the 2020-21 loan year, more specifically in January 2021.

Table 14 Aggregate Amount of Outstanding Student Loans

	Estimated Amount in January		
Loan Year	**Direct Loans**	**Risk-Shared Loans**	**Total**
	($ million)	($ million)	($ million)
2010-2011	13,589	151	13,740
2011-2012	14,586	137	14,723
2012-2013	15,363	129	15,492
2013-2014	16,142	118	16,260
2014-2015	16,810	107	16,917
2015-2016	17,357	93	17,450
2016-2017	17,781	79	17,860
2017-2018	18,137	66	18,203
2018-2019	18,460	55	18,515
2019-2020	18,762	45	18,806
2020-2021	19,044	35	19,079
2021-2022	19,320	27	19,347
2022-2023	19,607	21	19,628
2023-2024	19,926	16	19,942
2024-2025	20,289	13	20,302
2025-2026	20,705	10	20,715
2026-2027	21,176	7	21,183
2027-2028	21,710	6	21,715
2028-2029	22,301	4	22,305
2029-2030	22,944	3	22,947
2030-2031	23,651	1	23,652
2031-2032	24,418	-	24,418
2032-2033	25,254	-	25,254
2033-2034	26,144	-	26,144
2034-2035	27,085	-	27,085
2035-2036	28,065	-	28,065

D. Projection of the Net Cost of the Program

1. Student Related Expenses

The primary expense of the CSLP is the cost of supporting students during their study and repayment periods. This expense includes the interest subsidy, which corresponds to the cost of borrowing incurred by the Government while borrowers are in school, the interest portion of the Repayment Assistance Plan (RAP) and the provision or expenses for RAP – principal under the different regimes. The Canada Student Grants Program (CSGP), which was implemented in August 2009, provides non-repayable assistance to targeted groups of students, including students from low- and middle-income families, students with permanent disabilities, and students with children under the age of 12.

Table 15 Student Related Expenses

	Direct Loan			Risk-Shared and Guaranteed		Canada Student Grants Program	Total
Loan Year	Interest Subsidy	RAP – Interest	Provision RAP – Principal	Interest Subsidy	RAP (Principal and Interest)		
		($ million)			($ million)	($ million)	($ million)
2010-2011	172.3	87.5	328.8	1.2	9.0	623	1,222.2
2011-2012	127.4	97.3	64.0	0.9	7.8	642	939.4
2012-2013	170.2	103.5	64.9	0.6	6.6	638	983.9
2013-2014	232.1	119.5	65.4	0.3	5.6	634	1,057.3
2014-2015	283.3	142.9	65.0	0.2	4.6	626	1,121.8
2015-2016	295.3	153.3	65.0	0.1	3.5	618	1,134.9
2016-2017	297.0	159.0	65.6	-	2.6	614	1,138.4
2017-2018	299.4	163.2	66.5	-	1.9	614	1,145.1
2018-2019	303.0	166.1	67.6	-	1.5	616	1,153.9
2019-2020	307.3	168.4	68.7	-	1.1	618	1,163.7
2020-2021	311.9	170.7	69.9	-	0.8	623	1,175.8
2021-2022	317.1	173.0	71.3	-	0.5	628	1,189.9
2022-2023	322.9	175.3	73.0	-	0.4	636	1,208.0
2023-2024	329.8	177.6	75.0	-	0.2	648	1,230.7
2024-2025	337.8	180.1	77.3	-	0.1	662	1,257.2
2025-2026	346.7	182.8	79.7	-	0.1	677	1,286.1
2026-2027	356.5	185.8	82.3	-	-	694	1,318.4
2027-2028	367.5	189.1	85.3	-	-	714	1,356.1
2028-2029	379.4	192.9	88.4	-	-	735	1,395.7
2029-2030	392.1	197.1	91.5	-	-	757	1,437.6
2030-2031	405.9	201.7	95.1	-		782	1,485.0
2031-2032	420.8	206.8	98.9	-	-	809	1,535.4
2032-2033	436.9	212.4	103.0	-	-	839	1,591.2
2033-2034	453.7	218.4	106.9	-	-	868	1,646.8
2034-2035	471.0	226.0	111.0	-	-	897	1,705.3
2035-2036	488.6	234.0	114.9	-	-	926	1,763.6

As described in Appendix 1, the CSGP includes seven permanent grants as well as a temporary transition grant to take into account that some students were already receiving bursaries from the former Canada Millennium Scholarship Foundation (CMSF). In loan year 2010-11, a total of $623 million was disbursed under the CSGP including $23 million of transition grants. Grants from the CSGP and the transition grants are projected separately. Grants disbursed under the CSGP are assumed to vary according to the variations in the projections of the number of

students in the CSLP. The transition grants were put in place to ensure that former CMSF Millennium Bursary recipients are not adversely affected by the dissolution of the CMSF. Students could be eligible for the transition grant for up to three additional years under certain criteria. As such, transition grants are expected to be disbursed until 2011-12. The total amount of grants is projected to increase to $926 million at the end of the projection period. Monthly grant amounts are set in the *Canada Student Financial Assistance Regulations* and are assumed to remain constant for the entire projection period for the purpose of this evaluation.

2. Program Risk Expenses

Another expense for the Government is the risk involved in disbursing loans to students. Specifically, the risk of loan default and the risk of loans being forgiven upon a student's death or severe permanent disability are included in this section.

Table 16 Risks to the Government

	Direct Loan		Risk-Shared		Guaranteed		
	Provision for Bad Debt						
Loan Year	Principal	Interest	Risk Premium	Put-Backs & Refunds to FIs	Claims for Defaulted Loans	Loans Forgiven	Total
	($ million)		($ million)		($ million)	($million)	($ million)
2010-2011	291.1	34.2	0.2	3.0	5.5	6.5	340.5
2011-2012	315.6	47.2	0.2	2.5	3.8	6.9	376.2
2012-2013	314.8	54.3	0.2	2.3	2.7	7.2	381.5
2013-2014	309.5	62.8	0.1	2.1	1.9	7.6	383.9
2014-2015	298.6	75.5	0.1	1.9	1.4	7.9	385.3
2015-2016	284.8	81.5	0.0	1.7	0.9	8.2	377.1
2016-2017	274.0	84.9	0.0	1.1	0.6	8.5	369.1
2017-2018	276.7	86.8	-	0.9	0.4	8.7	373.5
2018-2019	281.3	88.2	-	0.8	0.3	8.9	379.4
2019-2020	285.8	89.1	-	0.6	0.1	9.0	384.6
2020-2021	290.9	89.4	-	0.5	-	9.1	389.9
2021-2022	296.7	89.2	-	0.3	-	9.3	395.5
2022-2023	303.7	89.2	-	0.2	-	9.4	402.5
2023-2024	312.3	89.7	-	0.2	-	9.5	411.6
2024-2025	321.8	90.3	-	0.1	-	9.7	421.9
2025-2026	331.5	91.2	-	0.1	-	9.8	432.6
2026-2027	342.4	92.3	-	-	-	10.0	444.7
2027-2028	354.9	93.7	-	-	-	10.2	458.9
2028-2029	367.5	95.3	-	-	-	10.5	473.4
2029-2030	380.6	97.3	-	-	-	10.8	488.6
2030-2031	395.5	99.5	-	-	-	11.1	506.1
2031-2032	411.0	102.0	-	-	-	11.4	524.4
2032-2033	428.3	104.8	-	-	-	11.8	544.8
2033-2034	444.7	107.8	-	-	-	12.2	564.6
2034-2035	461.4	111.1	-	-	-	12.6	585.2
2035-2036	478.1	114.8	-	-	-	13.0	605.9

Under the direct loan regime, the provisions for bad debt (principal and interest) represent the cost of the risk to the Government of being involved directly in the disbursement of loans to students.

Under the risk-shared regime, the risk premium represents the amount paid to lending institutions by the Government based on the value of loans consolidated for repayment in a year. Also

included are put-back fees and refunds to financial institutions for loans bought back by the Government.

Put-back fees exist only in the risk-shared arrangement as a way to transfer some of the risk back to the Government. According to the agreement, the Government is only obligated to buy back loans in default for at least 12 months, up to a maximum of 3% of the total loans in repayment with the financial institution each year. Financial institutions decide whether to sell defaulted loans, and if so, which ones to sell. The Government pays a put-back fee of five cents on the dollar for these loans.

The entire amount of recoveries on student loans bought back in the risk-shared regime is considered revenue in Table 18. According to the agreement, amounts recovered from income tax refunds are shared with the financial institutions. The participating financial institutions receive a refund of 75% of the amount recovered from income tax refunds in excess of the put-back fees.

For the guaranteed regime, defaulted loans are included in claims paid as a statutory expense since the Government bears the entire risk of defaulted loans under this regime. In the Public Accounts, guaranteed loans are classified as assets for which provisions for loan guarantees and loans in default are set up.

Loans forgiven correspond to loans that are forgiven (principal only) following the death or severe permanent disability of a borrower during the period of study, repayment, or even after the loan has been transferred to default status. As of August 2009, loans forgiven for disability are limited to borrowers who, due to their severe permanent disability, are unable to pay their loans and will never be able to repay them. Borrowers with a permanent disability who do not qualify for loans forgiveness could be eligible for the RAP for Borrowers with Permanent Disabilities (RAP-PD). Experience has shown a decrease in loans forgiveness and an increase in RAP-PD.

3. Other Expenses

Alternative payments are made directly to Québec, the Northwest Territories and Nunavut, which do not participate in the CSLP.

The administration expenses include the fees paid to the participating provinces and Yukon Territory as well as general administration fees. Fees are paid to the participating provinces and Yukon Territory to administer certain aspects of the CSLP. These fees are higher compared to the previous report due to additional compliance requirements. The general administration fees represent the expenses incurred by the departments involved and fees paid to service providers.

Table 17 Summary of Expenses

Loan Year	Student Related Expenses	Risks to the Government	Alternative Payments[1]	Administration		Total Expenses
				Fees Paid to Provinces	General	
	($ million)	($ million)	($ million)	($ million)		($ million)
2010-2011	1,222.2	340.5	278.8	25.8	107.4	1,974.6
2011-2012	939.4	376.2	278.4	32.0	108.4	1,734.4
2012-2013	983.9	381.5	267.9	32.9	111.8	1,777.8
2013-2014	1,057.3	383.9	290.1	33.8	114.9	1,880.0
2014-2015	1,121.8	385.3	319.6	34.7	118.2	1,979.6
2015-2016	1,134.9	377.1	334.8	35.8	121.7	2,004.3
2016-2017	1,138.4	369.1	334.0	36.9	125.4	2,003.8
2017-2018	1,145.1	373.5	326.0	38.1	129.5	2,012.3
2018-2019	1,153.9	379.4	315.0	39.4	134.1	2,021.7
2019-2020	1,163.7	384.6	314.9	40.8	138.9	2,042.9
2020-2021	1,175.8	389.9	314.3	42.3	144.0	2,066.3
2021-2022	1,189.9	395.5	315.3	43.9	149.2	2,093.7
2022-2023	1,208.0	402.5	316.7	45.5	154.6	2,127.3
2023-2024	1,230.7	411.6	319.1	47.1	160.2	2,168.7
2024-2025	1,257.2	421.9	324.8	48.8	166.0	2,218.7
2025-2026	1,286.1	432.6	334.0	50.6	172.1	2,275.4
2026-2027	1,318.4	444.7	346.2	52.4	178.3	2,340.1
2027-2028	1,356.1	458.9	359.6	54.3	184.8	2,413.7
2028-2029	1,395.7	473.4	375.4	56.3	191.5	2,492.3
2029-2030	1,437.6	488.6	392.4	58.3	198.4	2,575.4
2030-2031	1,485.0	506.1	409.1	60.5	205.7	2,666.3
2031-2032	1,535.4	524.4	425.9	62.7	213.1	2,761.5
2032-2033	1,591.2	544.8	441.1	64.9	220.9	2,862.9
2033-2034	1,646.8	564.6	454.2	67.3	228.9	2,961.8
2034-2035	1,705.3	585.2	466.1	69.7	237.2	3,063.5
2035-2036	1,763.6	605.9	476.8	72.3	245.8	3,164.3

As shown in Table 17, total expenses associated with the Program increase from $2.0 billion in 2010-11 to $3.2 billion in 2035-36. On average, total expenses increase at a rate of 1.9% per year from 2010-11 to 2035-36.

4. Total Revenue

In Table 18, the revenue for the direct loan regime comes from the interest earned from student loans in repayment, which include interest accrued during the six-month grace period following the study end date, the interest accrued on defaulted loans and the interest portion of RAP. This interest earned is net of interest on loans forgiven. The revenue is reduced by the Government's cost of borrowing for loans in repayment or in default to obtain the net interest revenue. The interest on defaulted direct loans is accrued until the status of the loans becomes "non-recoverable". The interest recovered on direct loans is already considered in the above interest earned calculation and is not shown separately.

Under the guaranteed and risk-shared regimes, there is no interest earned by the Government since students in good-standing pay interest directly to financial institutions. The only source of

[1] The calculation of alternative payments is based on expenses and revenues for a given loan year and the payment is accounted for in the following loan year.

revenue from these regimes is from recoveries of principal and interest from defaulted loans owned by the Government.

On average, total revenue increases at a rate of 3.6% per year from 2010-11 to 2035-36.

Table 18 Total Revenue

	Direct Loan			Risk-Shared	Guaranteed	
Loan Year	Student Interest Earned	Borrowing Cost	Net Interest Revenue	Principal and Interest from Recovery	Principal and Interest from Recovery	Total Revenue
	($ million)		($ million)	($ million)	($ million)	($ million)
2010-2011	466.4	-222.0	244.4	11.2	21.9	277.5
2011-2012	521.4	-166.0	355.4	11.2	18.9	385.5
2012-2013	585.8	-226.5	359.3	10.4	16.5	386.2
2013-2014	685.1	-318.4	366.6	9.6	14.3	390.6
2014-2015	829.0	-407.2	421.8	8.8	12.4	443.0
2015-2016	887.7	-444.5	443.3	7.9	10.7	461.9
2016-2017	920.3	-461.1	459.2	5.1	5.8	470.1
2017-2018	943.1	-473.6	469.5	4.3	4.8	478.6
2018-2019	961.0	-483.4	477.6	3.6	3.9	485.2
2019-2020	978.0	-491.6	486.4	3.0	3.2	492.6
2020-2021	993.6	-498.9	494.8	2.3	2.5	499.6
2021-2022	1,008.0	-505.6	502.4	1.2	1.3	504.9
2022-2023	1,022.0	-512.3	509.7	1.0	1.0	511.7
2023-2024	1,036.8	-519.2	517.7	0.7	0.4	518.8
2024-2025	1,052.8	-526.7	526.1	0.6	0.2	526.9
2025-2026	1,070.8	-535.4	535.5	0.4	-	535.9
2026-2027	1,091.5	-545.4	546.0	0.2	-	546.2
2027-2028	1,115.0	-557.0	558.0	0.1	-	558.1
2028-2029	1,141.7	-570.0	571.7	-	-	571.7
2029-2030	1,171.3	-584.6	586.7	-	-	586.7
2030-2031	1,204.0	-600.7	603.2	-	-	603.2
2031-2032	1,239.8	-618.4	621.4	-	-	621.4
2032-2033	1,278.9	-637.8	641.2	-	-	641.2
2033-2034	1,321.5	-658.8	662.7	-	-	662.7
2034-2035	1,367.2	-681.5	685.7	-	-	685.7
2035-2036	1,415.8	-705.8	710.1	-	-	710.1

5. Net Cost of the Program

Table 19 shows, in current dollars, total expenses, revenue and the net cost of the Program for the 25-year projection period, while Table 20 shows the same, but in 2011 constant dollars. The expenses and revenue shown correspond to values presented earlier in this report.

Table 19 Net Annual Cost of the Program

	All Regimes			Net Cost of the Program	
Loan Year	Total Expenses	Total Revenue	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
	($ million)		($ million)	($ million)	($ million)
2010-2011	1,974.6	277.5	1,697.1	1,710.5	-13.4
2011-2012	1,734.4	385.5	1,348.9	1,363.1	-14.2
2012-2013	1,777.8	386.2	1,391.6	1,405.7	-14.0
2013-2014	1,880.0	390.6	1,489.4	1,502.8	-13.4
2014-2015	1,979.6	443.0	1,536.7	1,549.3	-12.7
2015-2016	2,004.3	461.9	1,542.4	1,554.6	-12.2
2016-2017	2,003.8	470.1	1,533.7	1,540.1	-6.3
2017-2018	2,012.3	478.6	1,533.7	1,539.4	-5.7
2018-2019	2,021.7	485.2	1,536.5	1,541.5	-5.0
2019-2020	2,042.9	492.6	1,550.3	1,554.6	-4.4
2020-2021	2,066.3	499.6	1,566.7	1,570.3	-3.5
2021-2022	2,093.7	504.9	1,588.8	1,590.5	-1.7
2022-2023	2,127.3	511.7	1,615.6	1,616.9	-1.4
2023-2024	2,168.7	518.8	1,649.9	1,650.7	-0.7
2024-2025	2,218.7	526.9	1,691.8	1,692.3	-0.5
2025-2026	2,275.4	535.9	1,739.5	1,739.8	-0.3
2026-2027	2,340.1	546.2	1,793.9	1,794.0	-0.1
2027-2028	2,413.7	558.1	1,855.6	1,855.6	-0.1
2028-2029	2,492.3	571.7	1,920.6	1,920.6	-
2029-2030	2,575.4	586.7	1,988.7	1,988.7	-
2030-2031	2,666.3	603.2	2,063.0	2,063.0	-
2031-2032	2,761.5	621.4	2,140.1	2,140.1	-
2032-2033	2,862.9	641.2	2,221.7	2,221.7	-
2033-2034	2,961.8	662.7	2,299.1	2,299.1	-
2034-2035	3,063.5	685.7	2,377.8	2,377.8	-
2035-2036	3,164.3	710.1	2,454.3	2,454.3	-

As shown in Table 19, the initial net annual cost for the direct loan regime is $1.7 billion for loan year 2010-11 and reaches $2.5 billion in loan year 2035-36. This represents an annual average increase of 1.5% for the entire projection period.

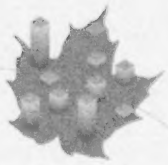
It is important to specify that this net cost includes grants disbursed under the CSGP. The projected amount of grants disbursed is $642 million in 2011-12, representing 47% of the net cost in 2011-12. Moreover, the net cost also includes yearly expenses to account for provisions which recognize in advance the risk of future losses associated with student loans.

In 2011 constant dollars (Table 20), the cost of the direct loan regime decreases, on average, by 0.8% a year from $1.7 billion at the beginning to $1.4 billion at the end of the projection period.

Table 20 Net Annual Cost of the Program (in millions of 2011 constant dollars)[1]

Loan Year	All Regimes			Net Cost of the Program	
	Total Expenses	Total Revenue	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
	($ million)		($ million)	($ million)	
2010-2011	1,974.6	277.5	1,697.1	1,710.5	-13.4
2011-2012	1,698.1	377.4	1,320.7	1,334.6	-13.9
2012-2013	1,706.5	370.7	1,335.8	1,349.2	-13.5
2013-2014	1,769.1	367.5	1,401.6	1,414.2	-12.6
2014-2015	1,826.4	408.7	1,417.7	1,429.4	-11.7
2015-2016	1,812.9	417.8	1,395.1	1,406.1	-11.0
2016-2017	1,776.9	416.9	1,360.0	1,365.7	-5.6
2017-2018	1,747.7	415.7	1,332.0	1,337.0	-4.9
2018-2019	1,718.1	412.3	1,305.8	1,310.0	-4.2
2019-2020	1,697.1	409.2	1,287.9	1,291.5	-3.6
2020-2021	1,678.0	405.7	1,272.3	1,275.1	-2.9
2021-2022	1,662.0	400.8	1,261.2	1,262.5	-1.3
2022-2023	1,650.6	397.0	1,253.6	1,254.6	-1.0
2023-2024	1,645.0	393.5	1,251.5	1,252.0	-0.5
2024-2025	1,645.0	390.7	1,254.4	1,254.8	-0.4
2025-2026	1,649.1	388.4	1,260.7	1,260.9	-0.2
2026-2027	1,657.9	387.0	1,270.9	1,271.0	-0.1
2027-2028	1,671.6	386.5	1,285.1	1,285.1	-0.1
2028-2029	1,687.2	387.0	1,300.2	1,300.2	-
2029-2030	1,704.3	388.3	1,316.0	1,316.0	-
2030-2031	1,724.8	390.2	1,334.5	1,334.5	-
2031-2032	1,746.2	392.9	1,353.2	1,353.2	-
2032-2033	1,769.6	396.3	1,373.3	1,373.3	-
2033-2034	1,789.6	400.4	1,389.2	1,389.2	-
2034-2035	1,809.4	405.0	1,404.4	1,404.4	-
2035-2036	1,826.9	410.0	1,417.0	1,417.0	-

[1] For a given year, the value in 2011 constant dollars is equal to the corresponding value divided by the ratio of the cumulative index of the Consumer Price Index (CPI) of that given year to the cumulative index of the CPI for 2011.



III. Conclusion

The Canada Student Loans Program promotes accessibility to post-secondary education for those with demonstrated financial need by providing loans and grants, thereby encouraging successful and timely completion of post-secondary education. In accordance with the section 19.1 of the *Canada Student Financial Assistance Act* (CSFAA), the Office of the Chief Actuary conducts an actuarial review on financial assistance provided under this Act.

The number of students enrolled full-time in a post-secondary institution is projected to increase from 1,248,000 in 2010-11 to 1,290,000 in 2011-12; it will then follow the movement of the population and reach 1,231,000 in 2035-36. The number of students receiving a CSLP loan fluctuates according to the evolution of the post-secondary enrolment and student needs. It is expected to increase from 429,000 in 2010-11 to 454,000 in 2011-12 and to reach 662,000 in 2035-36. The loan uptake of students in post-secondary institutions is thus projected to increase from 34% to 54% over the projection period. Such an increase in participation in the Program is mainly a result of rising student need. This need is affected by the evolution of tuition fees and other expenses, which increase at a faster rate than resources.

The amount of new loans issued is expected to increase from $2,227 million in 2010-11 to $2,419 million in 2011-12. Thereafter, the amount of new loans issued increases to reach $4,366 million in 2035-36.

The direct loan portfolio increases from $13.3 billion in 2010-11 to $27.5 billion by 2035-36. According to the projections, the limit on the aggregate amount of direct outstanding loans, increased from $15 billion to $19 billion through amendments to the CSFAA and Regulations in March 2012, is expected to be reached in January 2021.

The total net cost of the Government's involvement in the CSLP, which is the difference between expenses and revenue, is expected to grow from $1.7 billion in 2010-11 to $2.5 billion at the end of the projection period.

The future default rate corresponds to 16% and is adjusted upward in the short term as a consequence of the decreasing employment rates for age groups corresponding to borrowers in repayment as a result of the economic situation. The future recovery rate corresponds to 26%. The resulting provision rate for bad debt – principal, applied to net loans issued, remains unchanged from the last report and corresponds to 12.4%.

The provision rates for bad debt – interest, applied to the balance of recoverable interest according to the year since default, are adjusted downward to reflect the recent experience. The provision rate for Repayment Assistance Plan (RAP) – principal is increased to 3.0%, and an increase of $270 million is required as at 31 July 2011, to consider the higher than expected RAP expenses, especially for borrowers with a permanent disability. Indeed, as a result of the August 2009 change from the "permanent disability" definition to the "severe permanent disability" definition for loans forgiveness purposes, borrowers with a permanent disability may not be eligible for loans forgiveness but may apply for RAP.

IV. Actuarial Opinion

In compliance with the standards of practice of the Canadian Institute of Actuaries, we are hereby giving the opinion that,

- the data on which this report is based are sufficient and reliable;
- the demographic and economic assumptions used are, in aggregate, appropriate; and
- the valuation conforms with the requirements of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice.

Michel Millette, F.S.A., F.C.I.A.
Senior Actuary

Jean-Claude Ménard, F.S.A., F.C.I.A.
Chief Actuary

Ottawa, Canada
1 June 2012

V. Appendices

Appendix 1 – Summary of Program Provisions

The Canada Student Loans Program (CSLP) came into force on 28 July 1964 to provide Canadians equal opportunity to study beyond the secondary level and to encourage successful and timely completion of post-secondary education. The Government became involved in order to assist students because post-secondary education is costly. The CSLP is meant to supplement resources available to students from their own earnings, their families and other student awards.

Historically, two successive acts were established to assist qualifying students. The *Canada Student Loans Act* (CSLA) was established, applying to loan years preceding August 1995 and the *Canada Student Financial Assistance Act* (CSFAA) replaced the previous act for loan years after July 1995. Both acts permit the Minister of Human Resources and Skills Development Canada to provide loans to eligible students under the CSLP.

1. Eligibility Criteria

In order to be eligible for a student loan, a student must be a Canadian citizen within the meaning of the *Immigration Act* and must demonstrate the need for financial assistance. A student must also fulfill a series of criteria (scholastic standard and financial) to be considered for a loan. Upon application each year to their province of residence, loans are available to full-time students regardless of age and, since 1983, loans are also available to part-time students.

Budget 2011 expands eligibility for full- and part-time post-secondary students. The in-study income exemption of the full-time student is doubled from $50 per week to $100 per week, whereas the income eligibility threshold for part-time students for a Canada Student Loan and a Canada Student Grant is increased. These enhancements will be in force in all participating provinces and territory in August 2012.

A multi-year student financial assistance agreement is being implemented. It is referred to as a Master Student Financial Assistance Agreement (MSFAA) and replaces the current single-year student loan agreement. It will be in place in all jurisdictions by the 2013-14 loan year. By signing an MSFAA, a borrower also agrees to repayment terms that will apply to their loans when they leave their studies.

2. Partnerships

Since the Program's inception in 1964, the Minister has delegated powers, under both appropriate acts, to the participating provinces/territory to administer the CSLP. The participating provinces have their own student financial assistance programs that complement the CSLP. On behalf of the Government of Canada, the provinces and territory determine whether the students require financial assistance and their eligibility for the CSLP. Provincial/territorial authorities calculate the costs and determine the financial need of the student based on the difference between costs and available resources. In general, for each school year, the CSLP covers around 60% of the assessed need up to a maximum of $210 per week. The participating provinces complement the CSLP by providing the remaining 40% of the assessed need up to the province's weekly loan limit. The amount of money students may borrow depends on their individual circumstances.

The National Student Loans Service Centre (NSLSC) was established 1 March 2001 to assist students with questions related to the CSLP. Once students qualify for a loan, they obtain their loans from the Government of Canada. The NSLSC receives and processes all the applicable

loan documentation; i.e. from the disbursement to the consolidation and repayments of the loans. It also keeps the students informed of all available options to assist in repaying the loan.

The type of financial arrangement has varied through time and legislation. The following describes these different arrangements and who bears the risk associated with default.

- Guaranteed Loan Regime: Student loans provided by lenders (financial institutions) prior to August 1995, under the *Canada Student Loans Act*, are fully guaranteed by the Government to the lenders. The Government reimburses the lenders for the outstanding principal, accrued interest and costs in the event of default or death of the borrower. Therefore, the Government bears all the risk involved with guaranteed loans.
- Risk-Shared Loan Regime: For the period from August 1995 to July 2000, student loans continued to be disbursed, serviced and collected by financial institutions; however, the loans were no longer fully guaranteed by the Government. Instead, the *Canada Student Financial Assistance Act* permitted the Government to pay financial institutions a risk premium of five per cent of the value of loans that consolidated each loan year. Under this financial arrangement, the Government is not at risk except for the payment of the risk premium. The financial institutions can also decide to sell a certain amount of defaulted loans and the Government has to pay a put-back fee of five cents on the dollar for these loans. A part of the recoveries is shared with financial institutions.
- Direct Loan Regime: The direct loan arrangement came into force, effective 1 August 2000, following the restructuring of the delivery of the Program and amendments made to the *Canada Student Financial Assistance Act* and Regulations. The Government issues loans directly to the student and, again, bears all the risk involved.

3. Loan Benefit

a) In-study Interest Subsidy

The CSLP provides an interest-free loan during the period that the student is studying. The benefit takes the form of an in-study interest subsidy. During this period, the Government pays interest (Government cost of borrowing) on the loan and no payment on the principal is required.

For part-time students, before 2012, interest accrued on loans while they were in study; however, payments (both principal and interest) were deferrable until six months following the completion of their studies. Further to Budget 2011, the Act was amended to eliminate in-study interest on Canada student loans to part-time students, aligning the part-time and full-time loans. This change comes into force on January 1, 2012.

Since June 2008, members of the Reserve Force who interrupt their program of study to serve on a designated operation are considered full-time students until the last day of the month in which their service ends and, as such, benefit from an extended in-study interest-free period.

b) Loan Consolidation

At graduation, or if the student does not return to school, all of the student's loans are consolidated or added together during the six-month grace period. During this period, interest accrues on the loan(s) but no payment is required. Along with the implementation of the MSFAA, the *Canada Student Financial Assistance Regulations* were amended to remove the regulatory requirement that borrowers sign a consolidation agreement. Repayment terms will be part of the MSFAA and a repayment letter will be sent to borrowers upon leaving their studies to provide the information on their CSL balance, repayment options, and repayment assistance

measures that they can access. Since July 1995, the interest rate used to calculate the monthly payment is equal to the prime rate plus 250 basis points for the majority of students.

Students must provide their financial institution or the NSLSC with proof of enrolment for each study period in which they are enrolled even if they are not applying for a new loan. This prevents automatic consolidation from occurring while the student is still in school and prevents interest accruing on the loan.

c) Repayment Assistance

In 1983, the Government introduced a repayment assistance measure in the form of an Interest Relief to assist students experiencing financial difficulty repaying their loan. The Government assumes the responsibility for making interest payments on the outstanding loan and no principal payments are required. This measure has been improved over time and from 1998 to 2009, a borrower in financial difficulty could be awarded a total of 30 months of Interest Relief during the repayment period, with an additional 24 months if the borrower was still within the first five-year period after leaving school. In determining eligibility for Interest Relief, a borrower's monthly family income had to fall below an established income threshold in relation to the required monthly payment on the loan.

In 1998, the Government introduced the Debt Reduction in Repayment (DRR) measure to help students who remain in financial difficulty after all possible Interest Relief measures are exhausted. From 2005 to 2009, the principal loan reductions corresponded to two reductions of up to $10,000 each and a third reduction of up to $6,000. To determine whether the previous reduction has resulted in a manageable debt level, twelve months must elapse between each reduction.

Starting with the 2009-10 loan year, the Repayment Assistance Plan (RAP) replaces the Interest Relief and DRR measures. RAP is designed to make it easier for borrowers to manage their debt by calculating affordable payments ($0 for those under the established minimum income threshold, or from 1% to 20% of family income for those above the established minimum income threshold) based on family income and family size. Borrowers are deemed eligible for RAP for a six-month period if their affordable payment is less than their required monthly payment. RAP is composed of two stages to help student borrowers fully repay their loan within 15 years of leaving school or completing their studies (or 10 years for borrowers with a permanent disability).

Under Stage 1, the required monthly payment is determined by amortizing a borrower's outstanding principal amount over a period that ends 120 months after they ceased to be a student. The borrower's monthly affordable payment, if any, goes directly towards the loan principal, while the Government covers the interest amount not covered by the affordable payment. The principal portion of the loan not covered by the affordable payment is deferred similar to the former Interest Relief measure. Stage 1 can last for a maximum of five years in cumulative six-month periods.

Stage 2 is available to borrowers who continue experiencing financial difficulty after Stage 1 has been exhausted or those whose loan has been in repayment for more than 10 years. Under Stage 2, the required payment is calculated by reamortizing the outstanding principal between the date of the beginning of Stage 2 and the date corresponding to 15 years after the borrower left school (10 years for borrowers with a permanent disability). The Government covers both the required principal amount and the interest amount not covered by the borrower's affordable

payment such that the student loan has been repaid in full within 15 years (10 years for borrowers with a permanent disability) of the borrower leaving school.

Borrowers with a permanent disability who are not eligible for loan forgiveness have access to RAP (RAP-PD). Additional expenses related to costs that permanently disabled borrowers face are taken into account in the income calculation and the borrower proceeds directly to Stage 2 of RAP.

d) Loan Forgiveness

The Minister has the authority, upon application and qualification, to forgive the loan in the event of a borrower's severe permanent disability or death while in school or during the repayment period. Effective 1 August 2009, in order for a borrower's loan to be forgiven due to a permanent disability, the Minister must be satisfied that the borrower's condition respects the definition of "severe permanent disability", is unable to repay the student loan and will never be able to repay it.

4. Canada Student Grants Program (CSGP)

Canada Study Grants were introduced in 1995 as non-repayable grants administered by the participating provinces on the Government's behalf. These grants were taxable and assisted students with permanent disabilities, high-need part-time students, women pursuing certain doctoral studies and students with dependants. Canada Access Grants were then introduced in the 2005-06 loan year and include grants for students from low-income families as well as grants for students with permanent disabilities.

The CSGP, which was implemented in August 2009, provides non-repayable assistance to targeted groups of students, including students from low- and middle-income families, students with permanent disabilities, and students with children under the age of 12. This program includes seven permanent grants as well as a temporary transition grant for former Canada Millennium Scholarship Foundation (CMSF) bursary recipients. The Canada Student Grants include:

- A grant of $250 per month of study for full-time university undergraduate or college students from low-income families. Note: to be eligible, a student's academic program must be at least two years (minimum of 60 weeks) in duration.
- A grant of $100 per month of study for full-time university undergraduate or college students from middle-income families. Note: to be eligible, a student's academic program must be at least two years (minimum of 60 weeks) in duration.
- A grant of $2,000 per school year for students with permanent disabilities.
- A grant of up to $8,000 per school year to help cover exceptional education-related costs associated with a student's permanent disability.
- A grant of $200 per month of full-time study, per dependant child under the age of 12.
- A grant of $1,200 per year for part-time students from low-income families.
- A grant for part-time students with dependants of $40 per week of study for students with one or two children under 12 years of age and $60 per week of study for students with three or more children under 12 years of age.

The grant amounts are stated in the *Canada Student Financial Assistance Regulations*. The low- and middle-income thresholds are based on family size and province of residence and are set out in Table 1 and Table 2 of Schedule 3 of the Regulations.

Appendix 2 – Data

The input data required with respect to direct loans were extracted from data files provided by Human Resources and Skills Development Canada (HRSDC).

1. Direct Loans Issued

Table 21 presents the data extracted from HRSDC files on the number of students and amount of direct loans issued for loan years 2000-01 to 2010-11 compared with HRSDC publicized data. The data regarding loans issued were found to be complete.

Table 21 Direct Loans Issued and Number of Students

	Amount of Loans Issued		Number of Students	
Loan Year	HRSDC File	HRSDC Publication	HRSDC File	HRSDC Publication
	($ million)	($ million)		
2000-2001	1,573	1,570	343,746	346,568
2001-2002	1,507	1,512	328,671	331,541
2002-2003	1,549	1,549	331,042	331,763
2003-2004	1,648	1,648	342,264	342,982
2004-2005	1,633	1,633	339,204	339,828
2005-2006	1,936	1,939	345,549	345,765
2006-2007	1,916	1,931	344,214	345,124
2007-2008	2,004	2,015	353,548	354,144
2008-2009	2,071	2,081	366,145	366,788
2009-2010	2,088	2,088	403,566	404,432
2010-2011	2,225	2,226	426,942	428,549

According to the Monthly Financial Information Schedule (MFIS), the total amount of loans issued in 2010-11 was $2,227 million, which is slightly higher than the value calculated using the data file. The MFIS value is used as the starting point for projections in this report.

2. Direct Loans Consolidated

Table 22 presents the number and amount of consolidated direct loans extracted from HRSDC data files. The amounts are compared with data from MFIS. For some cases, the consolidation date is not available in the data file and is approximated from the last post-secondary end date.

Table 22 Direct Loans Consolidated

	Amount of Loans Consolidated (Including Six-month Interest in the Grace Period)	
Loan Year	HRSDC File	MFIS
	($ million)	($ million)
2000-2001	47.6	62.2
2001-2002	613.4	772.2
2002-2003	922.2	988.8
2003-2004	1,131.8	1,151.4
2004-2005	1,316.8	1,296.7
2005-2006	1,361.9	1,346.4
2006-2007	1,550.6	1,519.3
2007-2008	1,705.8	1,619.3
2008-2009	1,767.4	1,624.0
2009-2010	1,855.3	1,654.0
2010-2011	1,967.7	1,768.1

For loan years 2002-03 to 2008-09, there is a difference of less than 10% between the consolidation amounts estimated from the HRSDC file and the actual amounts shown in MFIS.

For the two most recent loans years, the difference is higher since some students who are assumed to have consolidated their loan are, in fact, still in school or will return to school. Amounts from MFIS are used for modeling purposes.

3. Defaults and Recoveries for Direct Loans

Table 23 shows the data on defaults and recoveries (principal only) for direct loans extracted from HRSDC data files. Default amounts are reduced by loans recalled and rehabilitated.

Table 23 Defaults and Recoveries for Direct Loans

Loan Year	Defaults	Recoveries
	($ million)	($ million)
2000-2001	5.3	0.3
2001-2002	4.9	0.7
2002-2003	226.2	23.8
2003-2004	250.4	48.8
2004-2005	343.2	83.0
2005-2006	255.5	85.6
2006-2007	243.2	83.7
2007-2008	287.4	91.8
2008-2009	292.6	85.4
2009-2010	284.3	81.1
2010-2011	310.8	92.8

4. Repayment Assistance Plan (RAP)

RAP was implemented in August 2009. Detailed data files by applicant are now available. RAP – Stage 1 cases are not incorporated into one uniform file and for part of the cases, RAP – Stage 1 payment information (portion of interest payment covered by the program) is not included. Data are expected to improve as the experience of the Plan progresses. Table 24 shows monthly payment amounts for direct loans for RAP – Stage 1, Stage 2, and PD, separated by principal and interest, as it appears in MFIS.

Table 24 Repayment Assistance Plan

	Principal			Interest			
	Stage 2	PD	Total	Stage 1	Stage 2	PD	Total
	($ million)	($ million)	($ million)	($ million)	($ million)	($ million)	($ million)
Loan Year 2009-2010	**3.26**[1]	**1.16**	**4.42**	**67.50**[2]	**0.52**	**0.70**	**68.71**
Loan Year 2010-2011							
August	0.12	0.12	0.24	6.36	0.08	0.09	6.53
September	0.14	0.09	0.23	6.23	0.08	0.07	6.38
October	0.16	0.21	0.37	6.13	0.10	0.14	6.37
November	0.02	0.03	0.06	5.25	0.00	0.03	5.29
December	0.42	0.55	0.97	8.02	0.27	0.30	8.59
January	0.23	0.38	0.61	7.09	0.16	0.19	7.43
February	0.26	0.58	0.84	6.88	0.16	0.25	7.29
March	0.28	0.71	1.00	7.97	0.18	0.29	8.44
April	0.29	0.78	1.07	7.95	0.19	0.38	8.52
May	0.27	0.75	1.01	6.91	0.17	0.37	7.45
June	0.36	0.99	1.35	7.09	0.22	0.49	7.80
July	0.33	0.85	1.19	6.79	0.22	0.42	7.44
Total	**2.90**	**6.05**	**8.94**	**82.68**	**1.83**	**3.01**	**87.53**

[1] Includes $2.3 million of DRR payments approved before August 2009.
[2] Includes $15.8 million of interest relief payments approved before August 2009.

Appendix 3 – Assumptions and Methodology

1. Growth of Total Loans Issued

The growth of total loans issued is related to the number of students participating in the CSLP, the evolution of need of those CSLP students and the loan limit. The evolution of the number of CSLP students and their need is discussed below.

a) Evolution of Number of CSLP Students

i) Demographic Evolution

The demographic evolution involves changes in the composition of the future population aged 15-29 for Canada, excluding the non-participating province of Québec, and the Northwest Territories and Nunavut. Future fertility, mortality and migration assumptions are applied to this population. The fertility, mortality and migration assumptions are based on those used in the most recent actuarial report of the Canada Pension Plan.

ii) Post-secondary Enrolment

The evolution of the full-time post-secondary enrolment shows a long-term decrease in post-secondary enrolment primarily caused by the labour shortage forecasted in Canada after the year 2015. It is anticipated that this labour shortage will be caused by the significant aging of the Canadian population and potential students will have a propensity to enter the labour market rather than attending a post-secondary institution on a full-time basis.

The number of students enrolled full-time in post-secondary institutions is projected separately between students that are in the labour force and students that are not in the labour force. For projection purposes, each distinct group is also divided based on the students' age group, gender and whether the students are attending university or college. For a given sub-group, a post-secondary enrolment rate is determined based on the historical post-secondary enrolment and the population of this sub-group. Each sub-group is then projected separately using the post-secondary enrolment rate and the population projection.

Table 25 presents the full-time post-secondary enrolment rate by age group, separated according to labour force status, for loan years 2010-11, 2016-17 and 2035-36. In 2010-11, 45% of the students enrolled full-time in post-secondary institutions were also participating in the labour force while 55% of the students were not participating in the labour force. The post-secondary enrolment rate is higher for the population not in labour force since this population is more inclined to go to school.

Table 25 Full-time Post-Secondary Enrolment Rate by Labour Force Status

		2010-11 (1) (%)	2016-17 (2) (%)	Change in Enrolment (2)/(1)-1 (%)	2035-36 (3) (%)	Change in Enrolment (3)/(1)-1 (%)
In Labour Force (Represents 45% of total enrolment 15-29 in 2010-11)	15-19[1]	15.8	15.3	-3.5	15.3	-3.5
	20-24	20.8	21.1	1.3	21.1	1.3
	25-29	4.2	4.2	-0.6	4.2	-0.3
	15-29	12.9	12.5	-2.5	13.0	1.2
Not In Labour Force (Represents 55% of total enrolment 15-29 in 2010-11)	15-19[1]	21.5	22.4	4.2	22.4	4.2
	20-24	72.0	73.0	1.3	73.0	1.4
	25-29	27.3	31.5	15.1	31.6	15.4
	15-29	36.9	38.7	4.9	37.3	1.0
Total Enrolment Over Population 15-29	15-19[1]	18.7	18.5	-1.3	18.4	-1.7
	20-24	33.7	32.7	-3.0	31.6	-6.3
	25-29	7.8	8.1	3.9	7.6	-2.6
	15-29	20.1	19.4	-3.7	19.2	-4.5

Although a slight increase of the full-time 15-29 post-secondary enrolment rate is expected over the projection period for both students in the labour force (from 12.9% in 2010-11 to 13.0% in 2035-36) and not in the labour force (from 36.9% in 2010-11 to 37.3% in 2035-36), the total enrolment over the population aged 15-29 is expected to decrease from 20.1% in 2010-11 to 19.2% in 2035-36. This is attributable to a transfer from the not-in-labour-force category to the in-labour-force category as a result of the anticipated labour shortage. The overall full-time post-secondary enrolment rate decreases as a result of the post-secondary enrolment rate being lower for the in-labour-force category.

iii)Participation in the CSLP

HRSDC has provided CSLP need assessment data for previous loan years, up to and including 2009-10. The CSLP need per week was determined using the following calculation:

CSLP need per week = (assessed need / number of assessed weeks) x 60%.

The CSLP weekly need represents 60% of the assessed weekly need because the CSLP generally provides 60% of the total loan, while the participating province or territory of residence provides the remaining 40%. A histogram of the CSLP weekly need was created for three distinct groups, based on student living arrangements. The three groups are as follows:

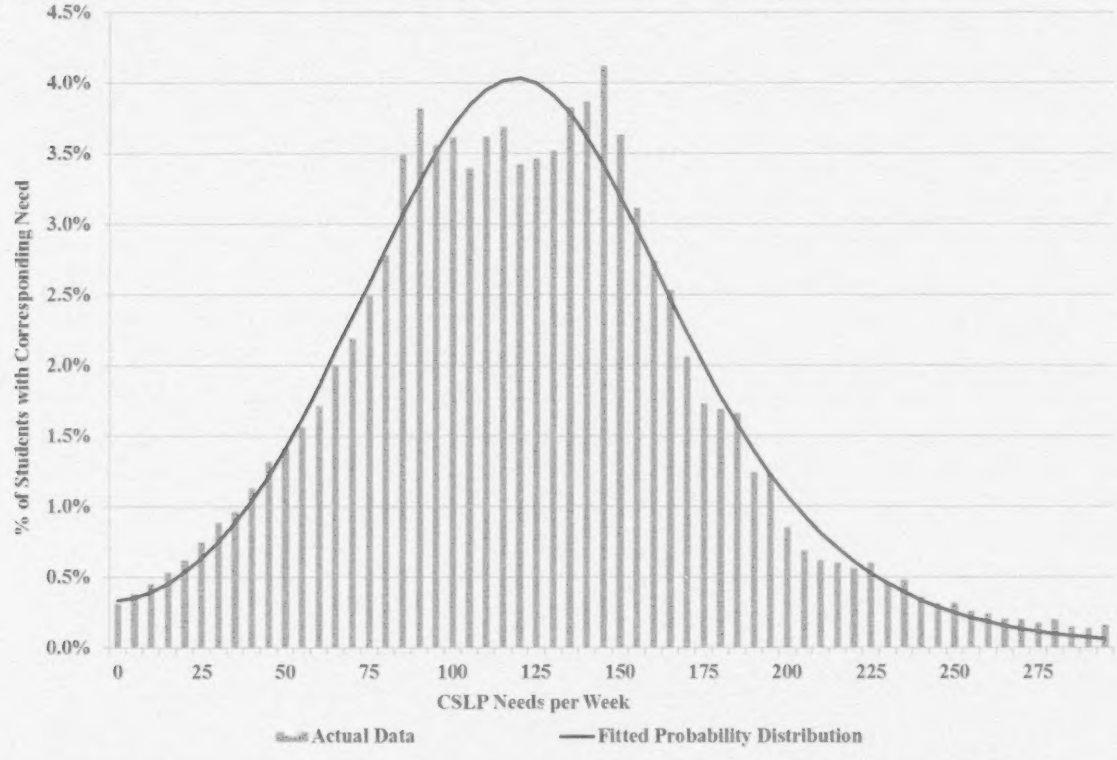
- Single dependent and single independent living at home
- Single dependent living away from home
- Married/common law, single independent and single parent living away from home

The histogram of weekly need was fitted with a probability distribution for each of the three groups. For illustration purposes, Chart 4 below shows the probability distribution fitted to

[1] The population aged 15-19 includes students going to high-school that are not considered in the post-secondary enrolment rate. When considering all education levels, including high-school, approximately 80% of the population 15-19 is in school.

the actual CSLP student weekly need data for the first group: single dependent and single independent living at home.

Chart 4 Actual and Fitted Need Distribution 2009-10 for Single Living at Home



For each year in the projection period, the average need increase from the prior year was calculated using the projections for tuition fees, other expenses and resources. Students with low need may experience a small increase in their need since they have resources to offset the expense increase. Students with high need will experience a larger need increase because they do not have sufficient resources to offset an increase in expenses.

The projected average need increases are used to determine new parameters for the modified normal curve in each of the projection years. After the new parameters are determined, the CSLP student need curves are projected for the 25-year period.

The area for each successive curve increases compared to the previous one since the curve parameters evolve as the need increases even though the initial point remains fixed. Indeed, since the curve moves to the right while remaining anchored to its initial point, the area under the curve increases. The increased area represents an increase in participation in the CSLP. Beginning with the base need curve for 2010-11, the area under the curve is 100% and the loan uptake rate is 34.3%.The area under the need curve for loan year 2011-12 is 102.5% due to an increase in the proportion of students in the CSLP for that loan year. Thus, the loan uptake rate for 2011-12 is 35.2% (34.3% x 1.025). The product of the number of students enrolled full-time and the loan uptake rate equals the number of students in the CSLP.

b) Evolution of CSLP Student Need

As discussed in the Main Report, student need is defined as the excess of tuition and other expenses over student resources. These elements were also checked for consistency with the average values contained in the need assessment files. Table 5 of the Main Report shows the evolution of student need throughout the projection period.

i) Tuition

Tuition fees are, in part, determined by government policies. Thus, they are determined using provincial budgets stating the Government's intentions, along with recent and historical experience for projecting short and long-term increases in tuition fees. The short-term projected increase of tuition is shown in Table 26. It is assumed that the most recent provinces' budgetary intentions will not change until 2014-15.

Table 26 Short-term Increase of Tuition Expenses

Province	Weight	Budget/Experience	2011-12	2012-13	2013-14	2014-15
	%		%	%	%	%
Newfoundland	1.5	tuition freeze	0.0	0.0	0.0	0.0
Prince Edward Island	0.8	1.6% increase, 2.0% thereafter	1.6	2.0	2.0	2.0
Nova Scotia	5.2	4.0% increase, 3.0% thereafter	4.0	3.0	3.0	3.0
New Brunswick	3.4	4.4% increase, 4.0% thereafter	4.4	4.0	4.0	4.0
Ontario	59.2	4.9% increase, 5.0% thereafter	4.9	5.0	5.0	5.0
Manitoba	1.8	2.2% increase, 2.0% thereafter	2.2	2.0	2.0	2.0
Saskatchewan	2.5	3.2% increase, 3.0% thereafter	3.2	3.0	3.0	3.0
Alberta	10.0	2.0% increase, 2.0% thereafter	2.0	2.0	2.0	2.0
British Columbia	15.8	1.9% increase, 2.0% thereafter	1.9	2.0	2.0	2.0
Weighted Average			3.9	3.9	3.9	3.9

Government budgetary cost pressures caused tuition fees to rise more quickly than inflation. Similar budgetary pressures are expected in the future due to the aging of the population. The long-term estimate of tuition is based on past increases in tuition relative to increases in the consumer price index (CPI). Over the last 10 years, tuition increases have been, on average, close to CPI plus 2.7%. The average increase is lower for the last five years and corresponds to CPI plus 2.4%. The long term tuition increase assumption is revised from CPI plus 3.0% to CPI plus 2.5% for this report to take into account this trend. Therefore, the 3.9% tuition increase for 2014-15 is graded to reach the CPI increase plus 2.5% by 2019-20.

The starting point for the 2009-10 tuition fees is calculated from the need assessment data file and represent the average tuitions fees for students who received a loan. Tuition fees were calculated for the three student groups based on their living arrangements and weighted by the total number of students issued for each group. This analysis resulted in an estimate of $6,294 for average tuition fees in 2009-10. The estimated average 2010-11 tuition fees is $6,540 using the same relative annual increase observed in 2009-10.

ii) Other Expenses

Other expenses are considered to be any student expense other than tuition fees. These expenses include books, shelter, food, clothing and transportation and are assessed by the participating provinces and territory. The average expense is calculated from the CSLP need assessment data file and represent the average expenses for students who receive a loan. The expenses included in the data file are normalized to get expenses on an annual basis. The estimated average for other expenses is $9,426 for the 2009-10 loan year and increases to

$9,517 for the 2010-11 loan year using the same relative annual increase observed in 2009-10.

iii)Student Resources

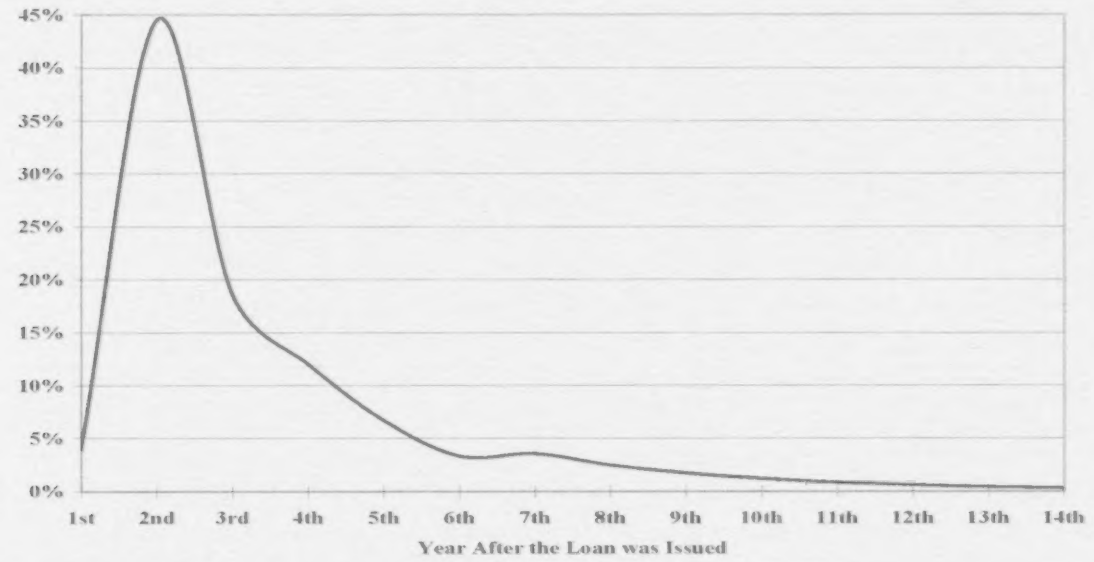
Student resources include student earnings, parental contributions and other resources. Increased resources ultimately serve to reduce the maximum loan available to students through need analysis. Student need is summarized in Table 5 of the Main Report.

The starting point for average resources in 2009-10 is calculated from the need assessment data file and represent the average resources for students who received a loan. As such, the estimated student average resources is $4,299 for 2009-10. The average student resources are estimated at $4,391 for the 2010-11 loan year based on the resources increase assumption.

2. Consolidation

Under the direct loan regime, loans are assumed to consolidate according to the distribution of consolidation by year shown in Chart 5 over a period of fourteen years after a loan is issued. This distribution is built using the experience of direct loan consolidations. A constant decreasing rate is applied for the tail of the distribution. The distribution is modified in the short term to take into account the impact of the recent economic downturn on consolidations since some students chose to either stay in or return to school.

Chart 5 Distribution of Consolidation



3. Repayment Assistance Plan (Stage 1)

Effective August 2009, the Repayment Assistance Plan (RAP) replaces the Interest Relief and Debt Reduction in Repayment measures. RAP consists of two stages that are described in Appendix 1. Borrowers can be enrolled in Stage 1 for up to five years over a ten-year period. Borrowers who qualify will make an affordable payment (or no payment) toward their loan principal. The Government will cover the interest amount not covered by the borrower's affordable payment.

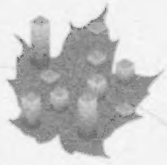


Table 27 shows the base utilization rates of RAP (Stage 1) for the direct loan regime for consolidation cohort 2012-13 and onwards. These rates are based on the Interest Relief experience of direct loans as well as the small amount of data available for RAP. These rates incorporate the average time spent on RAP Stage 1 in a loan year. The impact of the economic downturn on RAP is considered by temporarily increasing RAP (Stage 1) payments. Additionally, based on the first months of the 2011-12 loan year, an upward experience adjustment factor is required and maintained throughout the projection period.

Since the loan limit is frozen in the future, it is anticipated that RAP Stage 1 utilization will decrease as the average earnings of borrowers increase over time. In order to reflect this anticipated decrease in utilization, RAP Stage 1 payments are adjusted downward starting in 2013-14. Compared to the results without adjustments, this will result in a decrease in the amount of RAP Stage 1 (interest) issued, fewer borrowers exhausting RAP Stage 1 and subsequently, fewer borrowers becoming eligible for RAP Stage 2.

Table 27 RAP Stage 1 Utilization Rates for the Direct Loan Regime (%)

Years Since Consolidation	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year	Ninth Year	Tenth Year
0 – 1	17.91	18.75	13.01	10.56	7.94	2.93	2.31	1.89	1.48	1.04
1 – 2	2.39	1.83	1.20	0.81	0.35	0.21	0.23	0.41	0.46	
2 – 3	0.83	0.69	0.39	0.16	0.08	0.06	0.05	0.06		
3 – 4	0.41	0.35	0.18	0.07	0.03	0.04	0.03			
4 – 5	0.23	0.18	0.08	0.03	0.02	0.01				
5 – 6	0.13	0.10	0.05	0.01	0.01					
6 – 7	0.07	0.04	0.02	0.01						
7 – 8	0.03	0.02	0.01							

4. Repayment Assistance Plan (Stage 2)

RAP Stage 2 is available for borrowers who continue to experience financial difficulty. It starts once the borrower completes Stage 1 or has been in repayment for 10 years after they leave school or complete their studies. The Government will continue to cover the interest and begin to cover a portion of the principal (i.e. the difference between the affordable payment and required payment), on a monthly basis. The balance of the loan should be gradually paid off such that the student loan debt has been repaid in full within 15 years of the borrower leaving school (or 10 years for borrowers with a permanent disability).

There is very limited experience for RAP. The actual amount covered by the Government under RAP Stage 2 and RAP-PD for the 2010-11 loan year and the beginning of the 2011-12 loan year is higher than was expected in the previous report. In particular, borrowers with a permanent disability who do not meet the "severe permanent disability" criteria for loans forgiveness as introduced in the Regulations in August 2009 turn to RAP-PD. Therefore, based on available data, assumptions made for RAP Stage 1 exhaustion, eligibility for RAP Stage 2, the proportion of eligible borrowers with an affordable payment and the affordable payment as a percentage of the required payment have been revised. A set of rates consisting of the reduction of the total amount of loans exhausting Stage 1 has been determined for each exhaustion cohort.

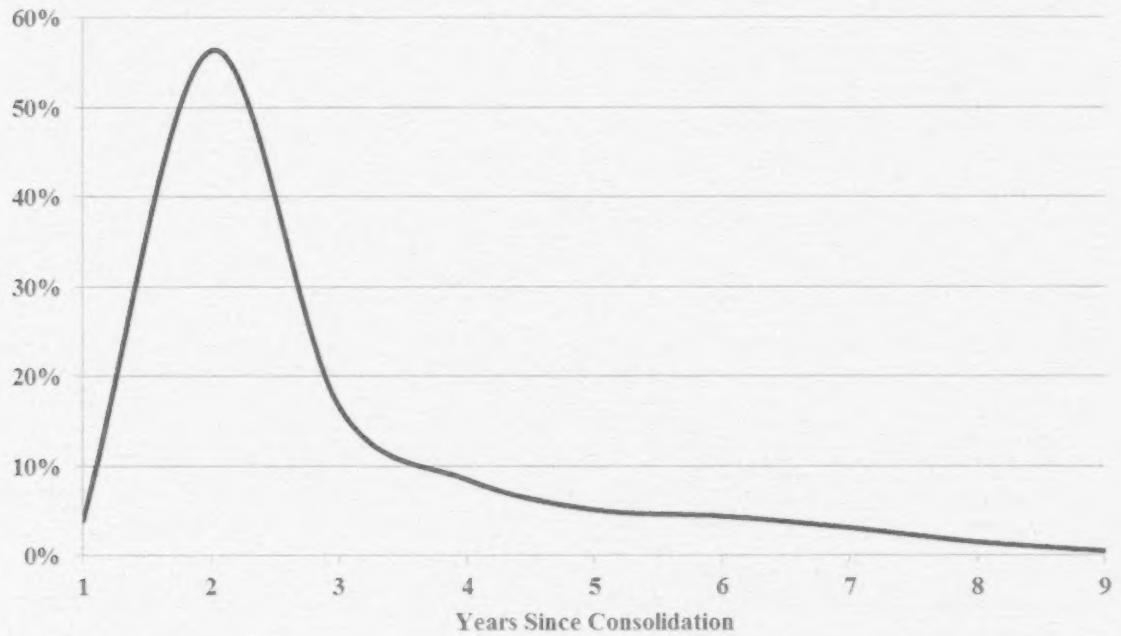
A provision for RAP – principal is established to cover risk of loss associated with the utilization of this measure. The provision recognizes that part of the loan principal will not be repaid by the students. The provision rate is determined based on the projected principal amount borne by the Government under RAP. The provision is increased from 1.8% in the previous report to 3.0%

and is applied to net loans issued. The provision rate increase is based on higher than expected experience, especially for RAP-PD.

5. Default Rate

The default distribution is based on direct loans experience. The average distribution is shown in Chart 6. According to this distribution, 77% of defaulted loans occurred in the first three years following consolidation.

Chart 6 Default Distribution

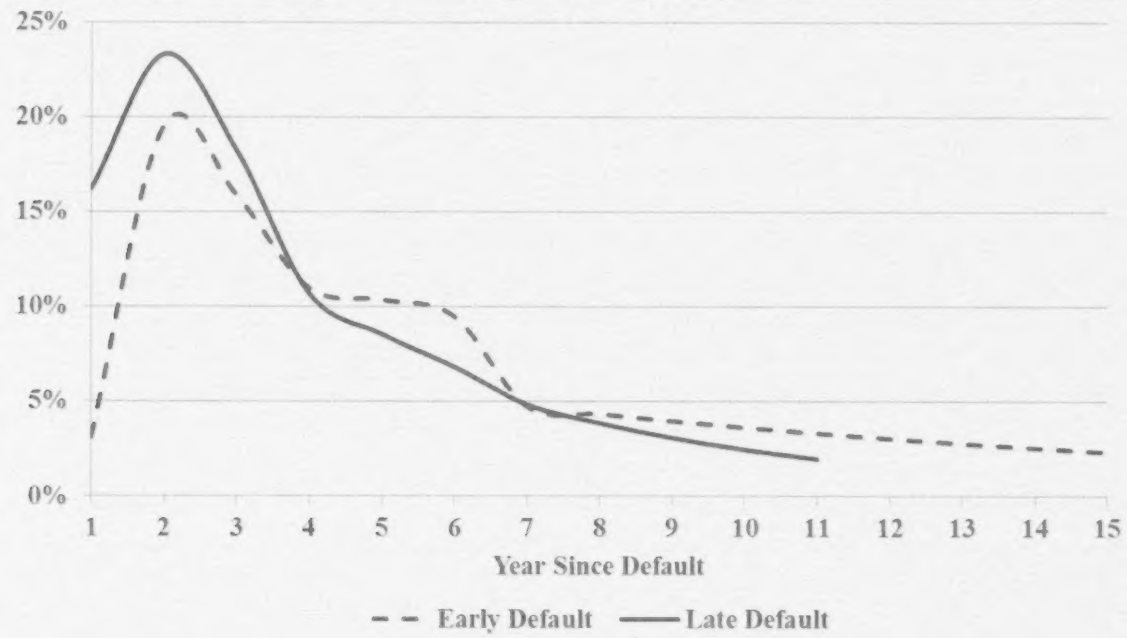


The long-term assumption for the future default rate by consolidation cohort is 16%. This rate implicitly recognizes that the RAP, which helps borrowers experiencing financial hardship repay their loans, should have a positive impact on default rates. Future experience should be monitored closely to evaluate if the expected impact of RAP on default is realized. For a given consolidation cohort, the default rate of 16% represents the proportion of the total amount of loans expected to default in the future (spread over nine years after consolidation, as per Chart 6). A portion of these defaulted loans will then be recovered by the Government. To reflect the recent experience and the impact of the economic downturn on defaulted loans, the default rate is temporarily increased. The default rate for the 2010-11 consolidation cohort corresponds to 20.0% and decreases to 19.7% in 2011-12. It gradually returns to 16% for the 2017-18 consolidation cohort. These increases are in accordance with the employment rate decrease experienced since fall 2008 and with both observed and expected employment rate recovery thereafter. Employment rates for the age groups representing borrowers in repayment (mainly the 25-29 age group) show a slower than expected recovery and this has an impact on the default rate.

6. Recovery Rate

The assumed recovery distribution (Chart 7) is also based on direct loans experience. Five separate distribution curves were developed to extrapolate data in future years. Chart 7 shows the extreme curves. The dotted curve represents the distribution of recoveries used to extrapolate recovery amounts for defaults that occur in the first year after consolidation (early defaults). The solid curve represents the distribution of recoveries used to extrapolate recovery amounts for defaults that occur in the fifth year after consolidation and thereafter (late defaults). In the first three years after default, the recovery distribution for late defaults (solid curve) for the borrowers who have already been in the repayment period for more than four years and have reimbursed part of the loan before defaulting is higher than the recovery distribution for early defaults (dotted curve) for the borrowers who have made no or very few payments on their loan before defaulting.

Chart 7 Recovery Distributions Depending on Date of Default



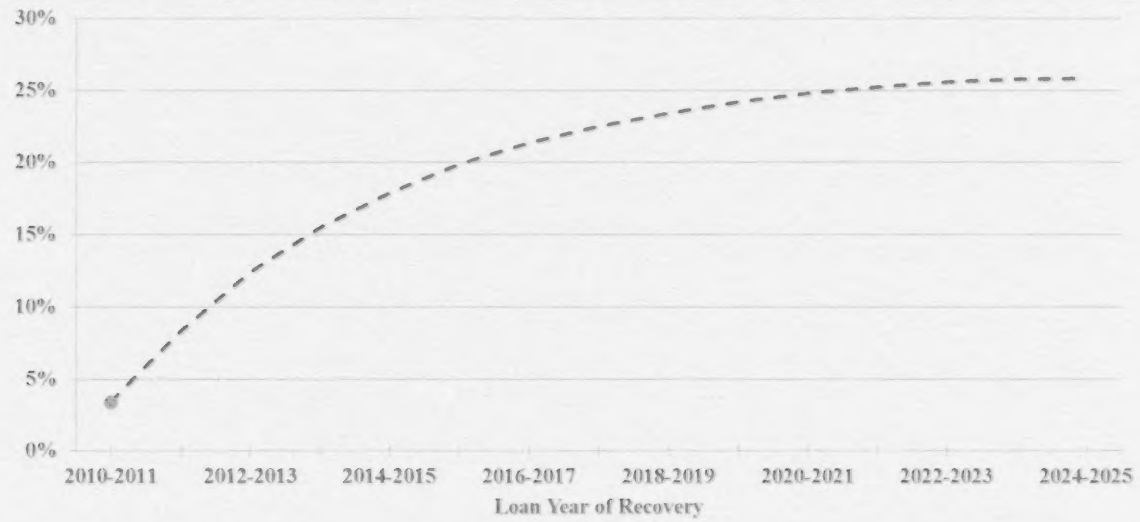
Based on the experience data, the recovery rate is lower for loans that default in the first year after consolidation compared to loans that default later after consolidation. The assumed recovery rate is 18% for defaults occurring in the first year after consolidation. This rate is assumed to increase afterward to 25% and 27% for defaults occurring in the second and third years after consolidation, respectively. The assumed recovery rate is 28% for defaults occurring in the fourth year following consolidation and thereafter. This set of four recovery rates remains constant over the long-term. The resulting recovery rate for an entire default cohort is 26% for each future default cohort.

Chart 8 shows the projected cumulative proportion of recoveries for default cohort 2010-11 using the default amount in loan year 2010-11, the recovery distributions shown in Chart 7 and the set of assumed recovery rates applied as follow:

- recovery rate of 18% for the portion of defaulted loans consolidated in 2010-11;
- recovery rate of 25% for the portion of defaulted loans consolidated in 2009-10;
- recovery rate of 27% for the portion of defaulted loans consolidated in 2008-09; and
- recovery rate of 28% for the portion of defaulted loans consolidated in or prior to 2007-08.

As described earlier, the recovery rate is higher for defaults occurring later after consolidation. The resulting recovery rate for the entire default cohort is 26% as shown in Chart 8. The first point of the curve represents the actual proportion of recoveries in loan years 2010-11 on loans that reached default status in the same loan year.

Chart 8 Projected Cumulative Proportions of Recoveries for 2010-11 Default Cohort



The resulting long-term future net default rate is 11.8%. It corresponds to:
Default rate x (1 – Recovery rate) = 16% x (1 – 26%).

7. Bad Debt Provision – Principal

According to the accounting recommendations under Section PS 3050 Loans Receivable of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants, a provision should be determined using the best-estimate available in light of past experience, current conditions and future expectations. As described previously, the net default rate is set at 11.8% and an upward adjustment of 0.6% for interest accrued during the grace period is applied.

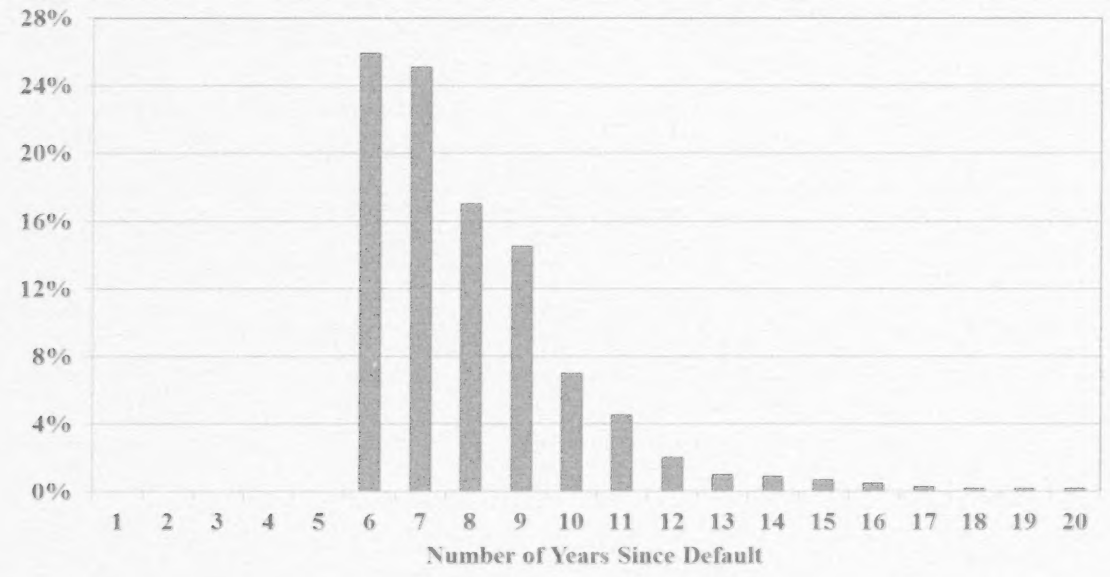
Table 28 Provision Rate for Bad Debt – Principal

Net Default Rate	11.8%
Adjustment: Interest accrued on loans during grace period	+0.6%
Bad Debt Provision – Principal: Applied to net loans issued	12.4%

From an accounting perspective, the provision rate for bad debt – principal is applied to the net loans issued. Net loans issued are obtained by reducing loans issued by prepayments and loans forgiven while in-study and during the six month grace period. As well, any loan adjustment due to a re-evaluation is also considered. The level of the total allowance is determined at the end of the loan year.

The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or defaulted (according to the number of years since default). Future assumed rates of default and recovery are applied to these portfolio amounts to determine the allowance that must be put aside to pay future write-offs. For a given loan year, the amount of loans to be written-off is determined using an assumption regarding the time the loan is recognized as non-recoverable and has exceeded the limitation period, which consists of a 15-year distribution starting in the sixth year following default. The six year delay takes into account the limitation period as stated in section 16.1 of the *Canada Student Financial Assistance Act*. To take the administrative process into account, an additional lag of a number of months is applied to determine the time of the write-off. The first significant write-offs of the direct loan regime was approved by the House of Commons on December 5th, 2011 (*Appropriation Act No. 3, 2011-12*). The administrative transactions in the Departmental Accounts Receivable System (DARS) were completed in January 2012. An additional amount was approved for write-offs on March 14th, 2012 (*Appropriation Act No. 4, 2011-12*). The administrative transactions were completed in April 2012. The total amount of principal written-off in 20111-12 is $221 million. The assumed distribution for the amount of time that it takes for the loan to both be recognized as non-recoverable and to also have exceeded the limitation period is presented in Chart 9.

Chart 9 Non-Recoverable and Limitation Period Exceeded Distribution



8. Bad Debt Provision – Interest

The methodology for the calculation of the provision for bad debt – interest takes into account the number of years since default. Interest on defaulted loans is accrued until the loan reaches the

"non-recoverable" status. A loan reaches this status when the collection of either principal or interest is not reasonably assured. For the purpose of the projections, a loan is transferred to "non-recoverable" status according to a 15-year distribution and is then written off according to a write-off distribution, which is based on the non-recoverable and limitation period exceeded distribution used for the principal portion, but with higher rates for the first years and lower rates for the last years of the distribution.

Since the interest on defaulted loans is accounted for as revenue, an allowance is established to cover the risk that such accrued interest will never be recovered. The methodology involves the calculation of:

- the accrued interest in each year on defaulted loans at the student cost of borrowing rates,
- the projected outstanding interest at the end of each year, using non-recoverable and recovery rates, based on direct loans experience and applied to outstanding interest at the beginning of the year,
- the projected allowance at the end of each year by adding, per year since default, the product of recoverable outstanding interest accounts and the corresponding provision rate; then 100% of outstanding non-recoverable accounts is added.

The expense for a year is equal to the difference between the total allowance (on recoverable and non-recoverable accounts) at the end of the year and the allowance of the previous year net of write-offs that have occurred during the year.

A set of provision rates that vary according to the number of years since default was established. The rates are shown in Table 29 and are modified from the last report to consider recent experience in interest recoveries.

Table 29 Provision Rates for Bad Debt – Interest

Year Since Default	Provision Rates (%)
1st	29.6
2nd	42.0
3rd	53.2
4th	63.2
5th	73.4
6th	61.7
7th	62.2
8th	63.0
9th	64.2
10th	65.9
11th	68.5
12th	72.5
13th	78.3
14th	87.0
15th	100.0

9. Other Assumptions

a) Prepayments and Accelerated Payments for Direct Loans

The analysis of principal payments received from students revealed that some payments are received while the student is still in school or during the grace period (prepayments) and some

payments are received in excess of the scheduled payments during the repayment period (accelerated payments).

i) Prepayments

Prepayments correspond to payments applied to principal during the period of study and during the six-month grace period after the period of study end date. The amount of prepayments for loan year 2010-11 is $259 million. The proportion of prepayments received during the period of study represents less than 30% of total prepayments. Since the majority of prepayments are made during the six-month grace period, the assumption is established in relation to the consolidation amount. The prepayment assumption (including prepayments received during the period of study and during the six-month grace period) is set at around 15% of consolidations for loan year 2010-11 and thereafter.

ii) Accelerated Payments

Accelerated payments correspond to payments received during the repayment period that exceed the scheduled payment based on a 114-month (9.5 years) repayment period. The assumption used is a distribution of accelerated payment rates that vary according to the number of years since consolidation and is based on information from the Designation Monthly data files. The distribution is presented in Table 30 and represents the proportion by which the scheduled payments are increased. This assumption is the same as the previous report.

Table 30 Accelerated Payment Rates

Years Since Consolidation	Rate
Same year as consolidation	162%
1-2	84%
2-3	52%
3-4	49%
4-5	39%
5-6	20%
6-7	10%
7-8 and after	5%

An HRSDC Guideline on amortization periods for consolidating loans was implemented in loan year 2005-06. It provides direction on the maximum period over which consolidating loans are to be amortized by taking into consideration the outstanding loan amount. For projections purposes, the normal principal payments received from students are calculated based on a standard 114-month repayment period. However, the assumption for accelerated payments considers this Guideline implicitly.

The total accelerated payments for loan year 2010-11 were lower than anticipated mainly due to the economic downturn. A downward experience adjustment factor is used for loan year 2011-12 to consider this situation. The factor is gradually eliminated over the following five loan years.

b) Alternative Payments

Alternative payments are projected by multiplying the net cost of the Program by the ratio of the population aged 18-24 residing in the non-participating province and territories to the population aged 18-24 residing in the participating provinces and territory.

For the calculation of alternative payments, the expenses included are: interest subsidies, RAP – interest expenses for risk-shared and guaranteed regimes, loans forgiven, recovery costs, service providers' costs, Canada Student Grants, claims, RAP – Stage 2 payments, risk premiums, put-backs, refunds to financial institutions, direct loans' borrowing costs for loans in good standing and default amounts for the direct loan regime. The revenues include: student interest payments and principal and interest from recoveries. The cost of alternative payments is $279 million for loan year 2010-11 based on expenses and revenue of loan year 2009-10 and $278 million for loan year 2011-12 based on expenses and revenue of loan year 2010-11.

c) Administration Costs

HRSDC provided estimates of the administration costs to support the CSLP for the 2011-12 to 2014-15 fiscal years. The costs have been converted to a loan year basis and the extrapolation of future years was done using wage increases. Administration costs also include expenses for service providers and are shown in Table 31.

Table 31 Administration Costs

Loan Year	Administration Costs
	($ million)
2010-11	107.4
2011-12	108.4
2012-13	111.8
2013+	Increases with wages

d) Administration Fees Paid to Provinces

For loan year 2010-11, the administration fees paid to the participating provinces and territory was $25.8 million. It is expected to increase to $32.0 million for loan year 2011-12. These fees are higher than the projection of the previous report due to additional compliance requirements for the participating provinces and territory. The increase in wages is used to project this expense thereafter.

e) Canada Student Grants Program

For loan year 2010-11, the actual cost of Canada Student Grants Program (CSGP) was $623 million, including an amount of $23 million for temporary transition grants. The total amount of grants disbursed under the CSGP is projected to increase with the number of students over the projection period. The transition grants are projected to decrease and cease during the 2012-13 loan year.

f) Loans Forgiven

In the long term, rates of loans forgiven correspond to 0.022% of loans in study and 0.08% of loans in repayment, including loans forgiven after being transferred to default status. The recent experience reflects the impact of the stricter criteria related to the "severe permanent disability" definition introduced in August 2009.

Appendix 4 – Sensitivity Tests

An actuarial examination of the CSLP involves the projection of its income and expenditures over a long period of time. The information presented in section A of the Main Report has been derived using "best-estimate" assumptions regarding demographic and economic trends. Sensitivity tests are performed using assumptions for which changes within a reasonable range have the most significant impact on the long-term financial results.

Both the length of the projection period and the number of assumptions required ensure that actual future experience will not develop precisely in accordance with the best-estimate assumptions. Sensitivity tests have been performed, consisting of projections of CSLP financial results using alternative assumptions.

For each sensitivity test, key assumptions were changed individually, with the other assumptions being maintained at their best-estimate levels. Two tests were performed with respect to each of the assumptions tested, except for the loan limit, grants and student interest rate spread where only one test was performed. The alternative assumptions selected are intended to represent the limits of potential long-term experience. However, it is possible that actual experience could lie outside these limits.

Each of these tests, excluding the test on real wage increases, was categorized as either a "low-cost" scenario or "high-cost" scenario. In the "low-cost" scenarios, the alternative assumptions have the effect of reducing the annual cost of the Program. Conversely, in the "high-cost" scenarios, the assumptions would increase the Program cost.

Table 32 below summarizes the alternative assumptions that were used in the sensitivity tests and is followed by a brief discussion of each assumption.

Table 32 Long-term Sensitivity Test Assumptions

Assumption	Low-cost	Best-estimate	High-cost
1. Loan Limit	-	$210	Indexed to inflation for 2012-13 and thereafter
2. Loan Limit and Grants	-	Not indexed	Indexed to inflation for 2012-13 and thereafter
3. Real Wage Increases	0.8%	1.3%	1.8%
4. Inflation	1.3%	2.3%	3.3%
5. Post-secondary Enrolment Rate – 2035-36 (Canada less Québec, Northwest Territories and Nunavut)	15.2%	19.2%	23.2%
6. Tuition Cost	CPI	CPI + 2.5%	CPI + 5.0%
7. Rate of Borrowing:			
Government cost of borrowing	2.8%	4.8%	6.8%
Student cost of borrowing	5.6%	7.6%	9.6%
8. RAP Stage 1 Utilization	70%	100%	130%
9. Net Defaults	7.0%	11.8%	16.1%
10. Student Interest Rate Spread	-	250 bps	100 bps

1. Indexation of the Loan Limit

This scenario assumes that the loan limit of $210 per week and thereafter is indexed annually to inflation, thereby showing the effect of many small annual increases to the limit. Contrary to the best-estimate scenario, the proportion of students at the loan limit will decrease in this scenario.

However, the amount of total loans issued will increase gradually from 1% over total loans issued under the frozen limit in 2012-13 to 53% at the end of the projection period.

Table 33 shows the impact of gradually increasing the limit on loans issued compared to keeping the limit frozen at $210 per week.

Table 33 Impact of Loan Limit on Loans Issued

Loan Year	No Change to Loan Limit			Indexed to Inflation Starting in 2012-2013				
						Loans Issued		
	Limit	% of Students at the Limit	Loans Issued Total	Limit	% of Students at the Limit	Total	Increase over Frozen	
	($)	(%)	($ millions)	($)	(%)	($ millions)	($ millions)	(%)
2010-2011	210	29.0	2,227	210	29.0	2,227	-	-
2011-2012	210	31.2	2,419	210	31.2	2,419	-	-
2012-2013	210	33.6	2,460	214	31.9	2,479	19	1
2015-2016	210	41.4	2,500	227	34.1	2,596	97	4
2020-2021	210	53.7	2,676	253	38.0	2,989	313	12
2025-2026	210	65.1	3,040	283	42.0	3,714	674	22
2030-2031	210	75.5	3,617	318	45.4	4,916	1,300	36
2035-2036	210	82.6	4,366	356	49.9	6,673	2,307	53

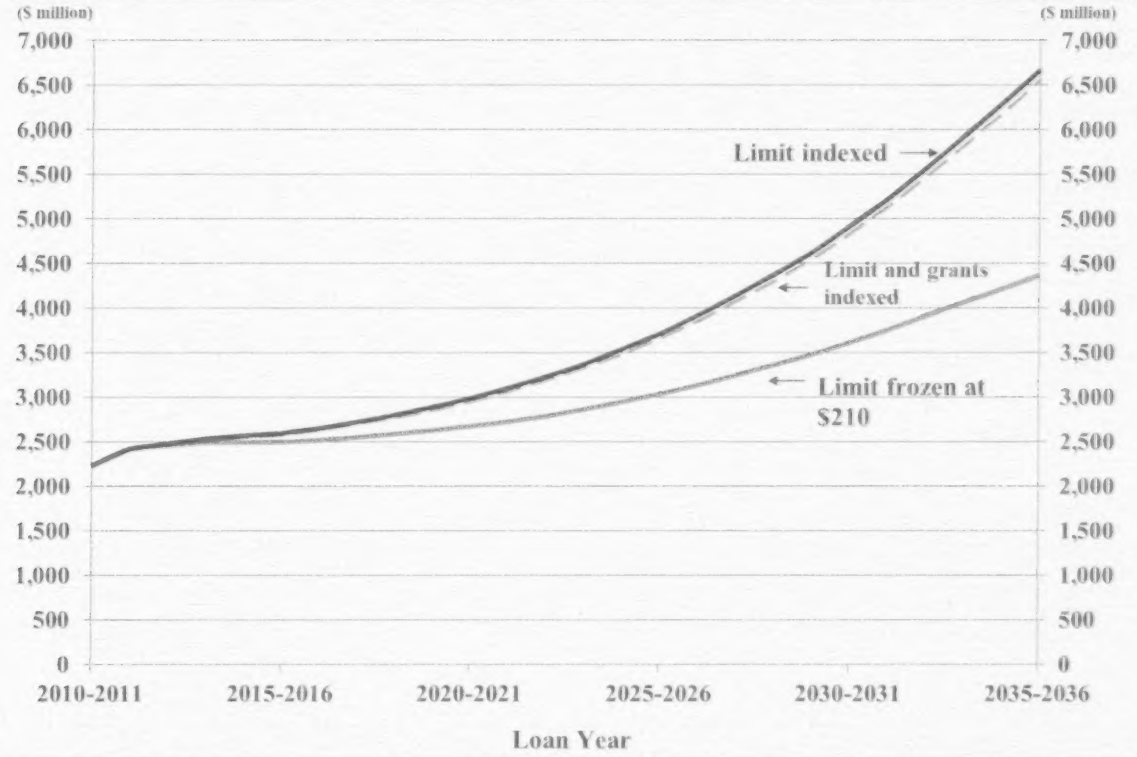
2. Indexation of Loan Limit and Grants

This scenario assumes that the amount of grants will be indexed annually to inflation. It is assumed that the indexation of grants would be accompanied by an indexation of the loan limit. Therefore, this scenario shows the cumulative effect of annual indexation of loan limit and grants on loans issued. The indexation of grants will lessen the effect of the loan limit indexation, thereby reducing total loans issued compared to the first sensitivity test. Table 34 and Chart 10 show the impact of gradually increasing both the limit on loans issued and the grant amounts disbursed compared to keeping the limit and the grant amounts frozen.

Table 34 Impact of Indexation of Loan Limit and Grants on Loans Issued

Loan Year	Limit frozen at $210			Limit and Grants Indexed to Inflation Starting in 2012-2013					
	% of Students at the Limit	Loans Issued Total	Grants Total	Limit	% of Students at the Limit	Loans Issued Total	Increase over frozen	Grants Total	Increase over frozen
	(%)	($ millions)	($ millions)	($)	(%)	($ millions)	(%)	($ millions)	(%)
2010-2011	29.0	2,227	623	210	29.0	2,227	-	623	-
2011-2012	31.2	2,419	642	210	31.2	2,419	-	642	-
2012-2013	33.6	2,460	638	214	31.9	2,476	1	651	2
2015-2016	41.4	2,500	618	227	33.5	2,583	3	669	8
2020-2021	53.7	2,676	623	253	36.6	2,959	11	750	20
2025-2026	65.1	3,040	677	283	39.9	3,666	21	913	35
2030-2031	75.5	3,617	782	318	42.9	4,843	34	1,183	51
2035-2036	82.6	4,366	926	356	47.1	6,569	50	1,569	69

Chart 10 New Loans Issued with Indexation of Loan Limit and Grants



3. Real Wage Increases

Wage increases affect the CSLP by increasing the resources of a student as determined in the need assessment process. This, in turn, reduces the need of a student, which can reduce a student's access to a loan. However, administration expenses will also increase since these are linked to salary increases.

The real-wage is assumed to increase uniformly from its initial to ultimate level. An ultimate real-wage increase of 1.3% has been assumed in years 2019-20 and thereafter for the best-estimate projections. Combined with the best-estimate inflation assumption of 2.3%, it results in an ultimate assumed nominal annual increase in wages of 3.6%.

The scenarios represent a variation of the assumed real-wage of 0.5%. For an assumed real-wage reduction of 0.5% and an increase of 0.5%, the ultimate real-wage increase in 2019-2020 is 0.8% and 1.8%, respectively. These sensitivity tests have a small impact on the amount of loans being issued and a negligible impact on the net cost of the Program since the total portfolio and the administration costs vary in opposite directions when applying a wage variation of 0.5%.

4. Inflation

An ultimate annual rate of inflation of 2.3% has been assumed for the best-estimate projections. The rate of inflation is assumed to be 2.6% for loan year 2010-11 before decreasing to 2.1% in 2011-12. The rate is then held constant at 2.0% for the following five years. The inflation rate is then assumed to increase uniformly and reach its ultimate level of 2.3% in 2019-20. The inflation rate affects the growth of a student's expenses, the growth of Program expenditures and,

indirectly, student resources. It also indirectly affects the Government's cost of borrowing, as well as the repayment rate charged to the student.

For the low-cost scenario, the annual rate of inflation is assumed to decrease by 1.0%. This reduces the long-term rate of inflation to 1.3% in 2019-20. This level of inflation is comparable to that of the 1960s and 1990s.

For the high-cost scenario, the annual rate of inflation is assumed to increase by 1.0%. This increases the long-term rate of inflation to 3.3% in 2019-20. This level of inflation is comparable to long-term historical averages.

5. Post-secondary Enrolment Rate

The number of students enrolled full-time in post-secondary institutions is projected separately between students that are participating in the labour force and students that are not in the labour force. As shown in Table 25 of Appendix 3, the overall post-secondary enrolment rate is projected to reach 19.2% in 2035-2036. The sensitivity tests show the variation of results if there would be fewer or more students attending post-secondary institutions.

For the low-cost scenario, post-secondary enrolment rates are decreased by 4% throughout the projection period and reach only 15.2% by 2035-36. This represents a decrease of 4% in the number of students attending post-secondary institutions. A lower enrolment rate could be experienced if labour shortage is more pronounced.

For the high-cost scenario, post-secondary enrolment rates are increased by 4% throughout the projection period and reach 23.2% by 2035-36. This represents an increase of 4% in the number of students attending post-secondary institutions. A higher enrolment rate could be experienced if the labour shortage is not as severe as anticipated.

In these scenarios, the amount of loans issued is directly correlated to the enrolment rate as the loan uptake rate remains unchanged. Hence, having 4% more students enrolled in post-secondary institutions results in 4% more loans issued.

6. Tuition Cost

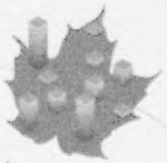
The long-term estimate of tuition increases is based on past tuition increases relative to the CPI. Over the last 10 years, yearly tuition increases have, on average, corresponded to increases in the CPI plus approximately 2.7%. This reduces to CPI plus 2.4% when considering the last five years. CPI plus 2.5% is used as the ultimate growth rate.

For the low-cost scenario, the ultimate tuition increase is expected to correspond only to increases in the CPI. This result is more in line with increases of other goods and services. This also means that the Government's funding for education will be more in line with inflation.

For the high-cost scenario, the ultimate tuition increase is expected to correspond to increases in the CPI plus 5.0%. The anticipated budgetary pressures due to the aging of the population could reduce funding in key areas such as post-secondary education.

7. Rate of Borrowing

The rate of borrowing has an impact on the cost of the interest subsidy for students in school, the cost of providing RAP (interest portion) to students in need and the Government cost of borrowing. This assumption also affects the student rate of borrowing. The rate of borrowing has historically been very volatile. As a result, greater emphasis should be placed on assessing the sensitivity of this assumption. The low-cost scenario reduces the rate by 2.0% and the high-cost



scenario increases it by 2.0%. Each of these scenarios is plausible based on the volatility of past experience.

8. Repayment Assistance Plan Utilization (RAP) (Stage 1)

RAP is a plan implemented in August 2009 to replace Interest Relief and DRR measures. In the future, the utilization of RAP Stage 1 could vary according to the current economic situation and students' awareness regarding the existence of this repayment assistance. The low-cost scenario reduces the utilization rates of RAP Stage 1 by 30% while the high-cost scenario increases them by 30%.

9. Net Defaults

The net default rate of student loans is a major component of the Government's cost of being involved in the Program. The assumed future net default rate on consolidated loans is 11.8% which corresponds to a default rate of 16.0% and a recovery rate of 26.0%. This rate is closely linked with the employment environment for new graduates as it affects the ability of students to repay their loans.

In the low-cost scenario, the future default rate is reduced by seven percentage points, to 9%, while the future recovery rate is reduced by four percentage points to 22%. This results in a net default rate of 7.0% and a provision rate of 7.6%.

In the high-cost scenario, the future default rate is increased by seven percentage points, to 23% and the future recovery rate is increased by four percentage points, to 30%. This results in a net default rate of 16.1% and a provision rate of 16.7%. Both of these tests only affect the provision rate for bad debt – principal. The provision rates for bad debt – interest are unchanged.

10. Student Interest Rate Spread

This scenario assumes that the student interest rate spread of 250 basis points is reduced to 100 bps beginning in loan year 2012-13. Overall, this scenario results in a small reduction in the portfolio size at the end of the projection period, but a large increase in the net cost of the Program. By decreasing the student interest rate spread, total revenues decrease significantly due to the reduction in student interest earned. There is a small decrease in total expenses, but not enough to offset the revenue loss. Thus, the net effect is an 11% increase in the net cost of the Program at the end of the projection period.

Table 35 below summarizes the results of each of the sensitivity tests.

Table 35 Sensitivity Test Results for Loan Year 2035-36

Assumptions	Scenario	Loans Issued	Increase	Average Growth Rate	Portfolio July	Increase	Net Cost	Increase
		($ million)	(%)	(%)	($ million)	(%)	($ million)	(%)
Base Scenario	Best-estimate	4,366	-	2.7	27,498	-	2,454	-
Sensitivity tests								
1 - Index the limit to inflation	High-cost	6,673	52.8	4.5	38,609	40.4	2,979	21.4
2 - Index Loan Limit and Grants to inflation	High-cost	6,569	50.3	4.4	38,039	38.3	3,758	53.1
3a - Real Wage -0.5%	Neutral cost[1]	4,418	1.2	2.8	27,723	0.8	2,449	-0.2
3b - Real Wage +0.5%	Neutral cost[1]	4,259	-2.5	2.6	26,919	-2.1	2,455	0.0
4a - Inflation -1%	Low-cost	3,976	-8.9	2.3	25,203	-8.3	2,104	-14.3
4b - Inflation +1%	High-cost	4,765	9.1	3.1	29,601	7.6	2,797	14.0
5a – Enrolment Rate -4%	Low-cost	4,192	-4.0	2.6	26,398	-4.0	2,370	-3.4
5b – Enrolment Rate +4%	High-cost	4,541	4.0	2.9	28,598	4.0	2,538	3.4
6a - Tuition: CPI	Low-cost	3,720	-14.8	2.1	24,326	-11.5	2,178	-11.3
6b - Tuition: CPI + 5%	High-cost	5,252	20.3	3.5	31,486	14.5	2,852	16.2
7a - Interest rate -2%	Low-cost	4,366	-	2.7	26,937	-2.0	2,250	-8.3
7b - Interest rate +2%	High-cost	4,366	-	2.7	27,996	1.8	2,654	8.1
8a - RAP Stage 1 utilization rates 70%	Low-cost	4,366	-	2.7	26,708	-2.9	2,405	-2.0
8b - RAP Stage 1 utilization rates 130%	High-cost	4,366	-	2.7	28,060	2.0	2,513	2.4
9a - Net default rate 7.0%	Low-cost	4,366	-	2.7	26,933	-2.0	2,193	-10.6
9b - Net default rate 16.1%	High-cost	4,366	-	2.7	27,895	1.4	2,686	9.4
10 - Student Interest Rate Spread at 100 bps	High-cost	4,366	-	2.7	26,908	-2.1	2,721	10.9

[1] Changing the ultimate real-wage increase assumption by 0.5% has a small impact on the amount of loans being issued and a negligible impact on the net cost of the Program since the total portfolio and the administration costs vary in opposite directions when applying a wage variation.

Appendix 5 – Acknowledgements

We would like to thank the staff of the Canada Student Loans Directorate of Human Resources and Skills Development Canada who provided the relevant data used in this report. Without their useful assistance, we would not have been able to produce this report.

The following people assisted in the preparation of this report:

Natacha Losier
Jonathan Petrin, A.S.A.
Annie St-Jacques, A.S.A.